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IPC Irwin Dual Output Power Supply (12VAC & 24VDC) Part Number IPC-0978-P (UK)

User Instructions



INTRODUCTION.

The IPC Irwin Dual Output Power Supply is designed as a general purpose laboratory power supply and has two isolated outputs which operate independently of each other. The AC output supply ranges up to 12V and can deliver a current of 4 Amps continuously or up to 5 Amps for periods of 1 hour. The DC output supply is a smoothed & regulated voltage with a ripple typically less than 50mV, the output voltage ranges up to 24V and can deliver a current of 3 Amps.

DESCRIPTION.

The AC voltage output is selected by the means of a 4-position rotary switch on the front panel, the selected voltages are 2V, 4V, 6V and 12V. The AC output is supplied via a pair of white 4mm sockets on the front panel and is protected from overload or short circuit by a current sensing circuit breaker also mounted on the front panel.

The DC voltage output is continuously variable from 0V to 24V by means of a rotary control on the front panel. The DC output is supplied via a pair of 4mm sockets on the front panel (red, positive & black, negative) and is protected from overload or short circuit by the internal electronic regulator.

Note: the two outputs may be used simultaneously provided the combined load does not exceed 3 Amps.

A power on green LED indicator is located on the front panel, while 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.

IPC Irwin

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INSTRUCTIONS.

To use the AC output first select the supply voltage required using the 4-position rotary switch on the left of the unit, this can be set to either 2V, 4V, 6V and 12V, then simply connect your test/supply leads to the two 4mm white socket. The maximum continuous current is 4 Amps, however 5 Amps can be drawn for a limited period of 1 hour.

Should the AC circuit breaker activate due to an overload (above 5 Amps) or short-circuit, then first switch off the Power Supply and then rectify the fault, finally switch on again and press the Reset button back in. **Please note:** Reset button will not operate for approximately 5 seconds after activation while the sensor cools down.

Note: When switching between the voltage settings please disconnect the load to help prevent damage to the switch contacts.

To use the DC output first select the supply voltage required using rotary control on the right of the unit, this can be set between 0V and 24V, then simply connect your test/supply leads to the positive red 4mm socket and the negative black 4mm socket. The maximum continuous current is 3 Amps.

Should an overload (above 3 Amps) or short-circuit occur the internal protection regulator will automatically drop the output voltage to limit the current. Should this occur first switch off the Power Supply and then rectify the fault, finally switch on again and the output voltage should now be restored.

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.

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:-

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	= 2.5kg
AC Output Voltage Range	= 2V, 4V, 6V and 12VAC
AC Output Current (Max.)	= 4 Amps (5 Amps up to 1 hour)
DC Output Voltage Range	= 0 to 24VDC
DC Output Current (Max.)	= 3 Amps

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

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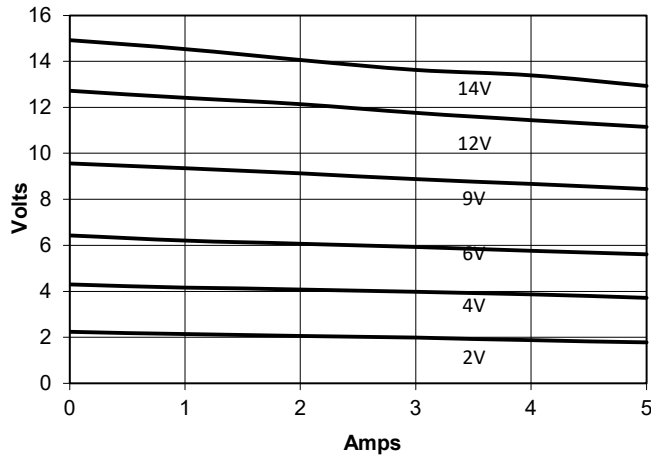
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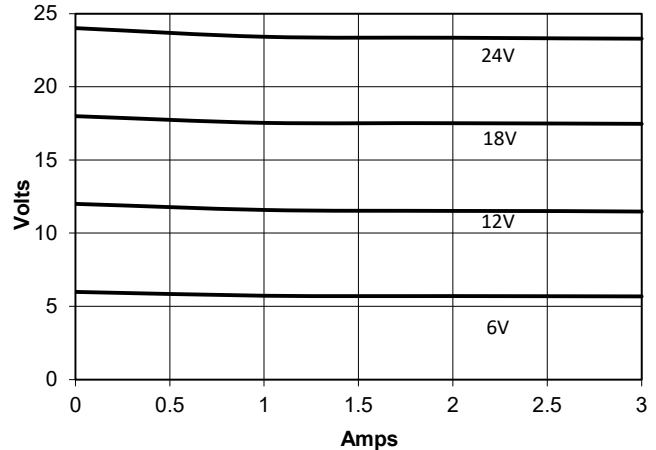


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Dual Output Power Supply AC Output Load Regulation



Dual Output Power Supply DC Output Load Regulation



Note:- when there is no load (or a very small load) connected the output voltages are higher than shown on the voltage control scale, please refer to load regulation graphs above:-

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: **Dual Output Power Supply, 12VAC & 24VDC (230V AC, 50Hz main voltage)/IPC-0978-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).

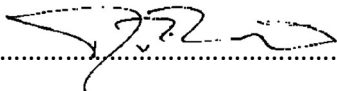
2001/95/EU	General Product Safety Directive.
2014/35/EU	Low Voltage Directive (LVD).
2014/30/EU	Electromagnetic Compatibility (EMC) Directive.
2011/65/EU	Restriction on Hazardous Substances Directive (RoHS).

European harmonised Standards used for conformity assessment and declaration:

EN 61010-1: 2010 **Electrical Requirements for Laboratory Test & Measurement Equipment.**



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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