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IPC Irwin Signal Generator

Part Number IPC-4744-W

User Instructions



INTRODUCTION.

The IPC Irwin Signal Generator has been designed for use in the study of AC Circuits, DC Digital Circuits, Amplification and General Electronics, as well as many other electronic based experiments. The unit provides both sine and square wave outputs, up to 8V peak to peak with a maximum output power of 1 watt into 8 Ω . All the controls are clearly labelled and very straightforward to use, therefore making the Signal Generator an invaluable instrument in the physics laboratory.

DESCRIPTION.

The instrument generates sine and square waveforms, both of which can be adjusted in amplitude from 0V to 8V (peak to peak). The output has an impedance of 8 Ω , and is provided via two white 4mm sockets, delivering up to a maximum of 1 watt. The frequency is continuously variable from 5Hz to 50kHz, via four switched ranges plus a fine adjustment control.

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. The instrument itself is built into a robust metal case with a durable powder coated finish.

INSTRUCTIONS.

To operate the Signal Generator simply connect a pair of 4mm plug test leads to the two white 4mm output sockets, note: the output voltage is floating, and then connect to your circuit or apparatus.

IPC Irwin

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The output voltage amplitude is increased and decreased via the indicated control knob, while the waveform is switched from sine to square using the control switch marked ($\sim$ $\square$).

To adjust the waveform frequency, first set the four position control switch to the frequency range required, this can be X1 (5Hz to 50Hz), X10 (50Hz to 500Hz), X100 (500Hz to 5kHz) & X1K (5kHz to 50kHz). Once the range is set the frequency can be adjusted fully within that range using the fine adjustment control knob marked (Hz).

SPECIFICATIONS.

Instrument:-

Electrical Supply	= 100-240VAC, 50-60Hz
Fuse Ratings	= IEC Socket Inlet: F1A, UK Mains Plug: 3A.
Output Power	= 1 watt (max.) into an 8 Ω load.
Waveforms	= Sine & Square.
Frequency Range	= 5Hz to 50kHz, typical accuracy +/-10% on all ranges.
Voltage Output (pk to pk)	= 0 to 8V, continuously variable for all frequencies & waveforms.
Dimensions	= 180 x 190 x 85mm overall.
Mass	= 1.0kg

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.

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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: **Signal Generator (230V AC, 50Hz main voltage)/IPC-4744-W**

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).

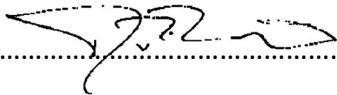
2001/95/EU	General Product Safety Directive.
2014/35/EU	Low Voltage Directive (LVD).
2014/30/EU	Electromagnetic Compatibility (EMC) Directive.
2011/65/EU	Restriction on Hazardous Substances Directive (RoHS).

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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