



Providing Excellence in Science Education

IPC Irwin Resistance Substitution Box

Part Number ERS8050

User Instructions



Code: ERS8050

INTRODUCTION.

The IPC Irwin Resistance Substitution Box will provide any resistance value you require, which makes it ideal for demonstrating the principle and calculations of Ohms Law. It is also perfect for altering resistance values in Electronic Circuits, such as adjusting the gain of an Operation Amplifiers or the effect of a Potential Divider as a volume control. The design of the Resistance Substitution Box makes it easy to set the required resistance without the need of a Multimeter.

DESCRIPTION.

The Resistance Substitution Box has six individual decade ranges allowing a full range of 1 ohm to 999,999 ohms (virtually 1M ohms), with a resolution of 1 ohm throughout the full range. Each resistance range is selected using a rotary switch and the set resistance output is provided across two red 4mm terminals. In addition, there is an unswitched 1K ohm resistor provided between one of the red 4mm terminals and a black 4mm terminal, therefore allowing a potential divider to be created, this is ideal for demonstrating the effects of a potentiometer as a volume control etc.

All resistance values are accurate to $\pm 1\%$ with a power rating of 600mW maximum for the set output resistance. The unit itself is housed in a robust black ABS plastic case with non-slip rubber feet, all connections uses terminal posts incorporating industry standard 4mm sockets.

INSTRUCTIONS.

Simply connect your test leads to the two red 4mm terminals (marked 'R') and adjust the rotary switches to set the required output resistance. To setup as a potential divider simply connect your voltage or signal across the top red 4mm terminal and the black 4mm terminal (marked '1K') and use the middle red 4mm terminal as your output.

IPC Irwin

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SPECIFICATIONS.

Dimensions	= 150 x 100 x 83mm (overall).
Mass	= 0.3kg
Resistance Range	= 1 ohm to 999,999 ohms.
Resistance Resolution	= 1 ohm (across the full range).
Resistor Tolerance	= $\pm 1\%$ each.
Resistor Power Rating (max.)	= 600mW across both R and 1K outputs.
Maximum Voltage	= 250V
Maximum Switching Current	= 150mA @ 250V AC/DC

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

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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