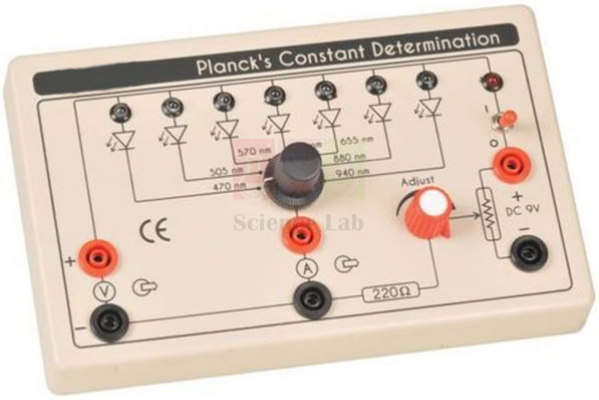
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Product Name :

Plancks Constant Determination Box

Product Code :

SLE/PHY/50



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Description :

Plancks Constant Determination Box (Product Code: SLE/PHY/50) is an LED-based apparatus used to find an approximate value of Planck's constant from the elbow voltage in LED characteristic curves in physics laboratories. Seven LEDs, from deep blue at 470 nm to near infrared at 940 nm, are mounted on the box with sockets for voltage and current measurements, making it a compact Planck constant experiment kit. It is supplied by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, India.

Specifications

Parameter	Detail
Method	Elbow voltage in the characteristic curves of a number of LEDs
Number of LEDs	7, mounted on the box
Wavelength range	470 nm (deep blue) to 940 nm (near infrared)
Connections	Sockets for voltage and current measurements
Power	External 9 V power source or 9 V battery required
Leads	Connecting leads required
Product code	SLE/PHY/50
Supplied by	Jain Scientific Equipments Pvt Ltd (ScienceLab), Ambala, India

What Is the Planck's Constant Box Used For?

Students connect each LED in turn, raise the voltage slowly and note the value at which it just begins to emit light — the elbow of its current–voltage curve. That voltage multiplied by the electron charge gives the energy of the emitted photons; plotting energy against light frequency, worked out from each LED's wavelength, gives a straight line whose gradient approximates Planck's constant.

With seven LEDs spread from 470 nm to 940 nm, the graph has enough points for a clear straight-line fit, and the exercise doubles as an LED characteristics experiment kit for electronics topics. For the near-infrared LED the light cannot be seen, so read its turn-on point from the current meter instead of by eye.

What to Specify When Ordering

- Power: whether you will use an external 9 V source or a 9 V battery.
- Connecting leads and meters for the voltage and current sockets.
- Number of boxes, for example one per bench group or one for demonstration.

Supplier

Jain Scientific Equipments Private Limited, trading as ScienceLab, supplies the Plancks Constant Determination Box from Ambala, Haryana, India, to schools, colleges and dealers. The company sourc the same

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