

OMEGA TYPE ES-248 Experimental Set Up has been designed specifically for study of Hall Effect in semiconductor and determination of allied parameters. The set-up consists of Hall Effect Board, Hall Probe, Electromagnet, Constant Current Power supply (0-4A), Digital Gauss Meter with Hall Probe.

The set up is complete in all respect and requires no other apparatus. Practical experience on this set up carries great educative value for Science and Engineering Students.

OBJECT

Study of Hall Effect in semiconductor and determination of allied parameters.

FEATURES

The complete Experimental Set-up consists of the following :



01. HALLEFFECT BOARD (DIGITAL) OMEGA TYPE HEB-248 : It consists of a digital meter to read Hall voltage (0-200mV) and probe current (0-20mA) selectable by a switch .It also provide constant current power supply. Variation in current is achieved by a potentiometer provided.

SPECIFICATIONS	:	AMMETER	VOLTMETER
Range	:	0-20 mA	0-200mV
Resolution	:	10 μ A	0.1mV
02. HALL PROBE : Germanium Single Crystal N or P -type with four spring type pressure contact is mounted on a summica bakelite strip.

TECHNICALDETAILS	:	
Material	:	Ge single crystal n or p-type as desired.
Resistivity	:	8-10 ohm.cm.
Contacts	:	Spring type (solid silver)
Zero-field potential	:	< 1mV (adjustable)
Hall Voltage	:	25-35mV/10 mA/KG
03. ELECTROMAGNET : The electromagnet have the most widely used 'U' shaped soft iron yoke. The soft iron is of a special quality, structurally uniform, well machined and finished to meet the rigid standards.

SPECIFICATIONS	:	
Field intensity	:	7.5 KG at 10mm air-gap which flat pole pieces.
Pole pieces	:	50mm diameter.
Energising coils	:	Two, each a resistance of about 3.0 ohm.
Power requirement	:	0-30V DC, 4A, its coils are connected in series.
04. CONSTANT CURRENT POWER SUPPLY OMEGA TYPE CCP-30/4 :

Current range	:	0 - 4 Amp.
Load regulation (No Load to Full Load)	:	Better than 0.5% of the highest specified output current.
Line regulation (For $\pm 10\%$ Mains Variation)	:	Better than $\pm 2\%$ of the specified output current.
Metering	:	3 $\frac{1}{2}$ digit 7 segment LED DPM.
05. DIGITAL GAUSS METER WITH HALL PROBE OMEGA TYPE DGM - 020 : Operates on the principle of Hall Effect in semiconductor. The small Hall Voltage is amplified through a high stability amplifier so that a millivoltmeter connected at the output of the amplifier can be calibrated directly in magnetic field unit (gauss).

SPECIFICATIONS	:	
Range	:	0-2 KG & 0-20 KG.
Resolution	:	1G at 0-2 KG range
Accuracy	:	$\pm 0.5\%$.
Special Feature	:	Indicate the direction of the magnetic field.
06. HALL PORBE STAND (WOODEN)
 - * Weight : 58 Kg. (Approx.)
 - * Dimension : W 290 x H 160 x D 230
 - * Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References.

We are committed to the continuous development of our products, and therefore reserve the right to amend specifications without prior notice.

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