



### Technical Features:

Experiment for measurement of Hall Coefficient in semiconductors such Germanium with both n and p type samples.

The setup should consist of:

1. Two Hall Probe (Ge Crystal) n-type and p-type one each. Ge single crystal with four spring-type pressure contacts. Four leads for connecting measuring devices

Resistivity: up to 20 ohm.cm. Zero-field potential: <1mV. Hall Voltage: 25-35mV/10mA/KG

2. Hall Effect Set-up should consist of Millivoltmeter and Constant Current Source. Millivoltmeter of 0-200mV. Accuracy:  $\pm 0.1\%$  Constant Current Power Supply of range 0-20mA, resolution 10 $\mu$ A, with Load and Line regulation

3. Computer Interface: An interface enabling the user to operate the hall effect setup through a computer. The interface is attached to any USB port and on activation a GUI shows the computer control, data storage and graph plotting of the experiment. Also included is the option for automatic computation of hall coefficient, carrier mobility and carrier density.

4. Electromagnet with 50mm pole dia, Low Carbon steel, Two coils with 900 turns each. Magnetic field strength variable upto 7.5 KG.

5. Constant Current Power Supply for above electromagnet (0-4A current) continuously variable. Complete unit housed in metal cabinet with effective electromagnetic shielding.

6. Digital Gaussmeter with GaAs Transverse Probe. Range: 0-2KG, 0-20KG and 7 segment LED display with accuracy 0.5%. Complete unit housed in metal cabinet with effective electromagnetic shielding. With USB interface. Can be connected directly to window-based PC, Complete with software.

Photographs are for reference only final product may vary

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