

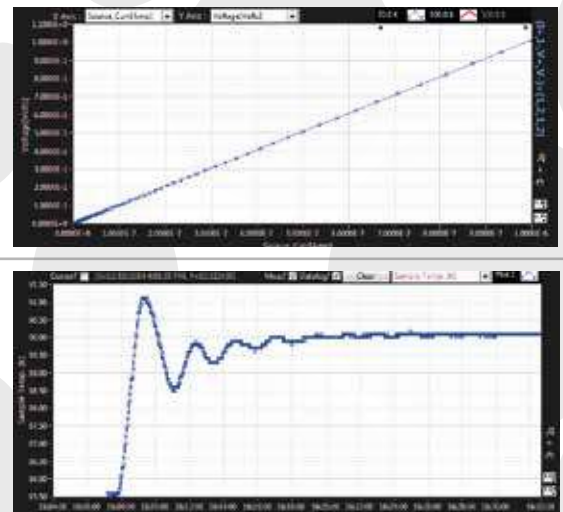
ezHEMS

Hall Effect Measurement System



Technical Specifications

- Resistivity Measurement Range: 10^{-4} to $10^9 \Omega\text{-cm}$ (sample dependent)
- Mobility: 1 to $10^7 \text{ cm}^2 / \text{Volt-sec}$ (sample dependent)
- Concentration: 10^7 to 10^{21} per cm^3 (sample dependent)
- Current Source: $\pm 2 \text{ nA}$ to $\pm 20 \text{ mA}$, $\pm 12 \text{ V}$ compliance
- Minimum Hall voltage measurable: $0.1 \mu\text{V}$
- Supports Van der Pauw as well as Hall bar shaped samples
- Magnetic Field: 0.6 Tesla or 1 Tesla permanent magnet
- 80-750K temperature range with $\pm 0.2 \text{ K}$ resolution. Entire temperature range in a single system.
- Higher ranges are optional
- Pt-100 resistance thermometer, 750 K heater and PID temperature controller
- Computer control through USB interface
- Samples sizes from $5 \times 5 \text{ mm}$ to $15 \text{ mm} \times 15 \text{ mm}$ & with thickness $< 2 \text{ mm}$
- Automated movement of magnets controlled by ezHEMS Control Software



The ezHEMS Measurement System Software Capabilities:

- Enables data logging and plotting of different measured quantities; I-V curve, resistance, resistivity, sheet resistance, magnetoresistance, carrier conc., Hall mobility, Hall coefficient etc. as a function of sample temperature
- Provides the measured data in tabular form
- LabVIEW™ drivers