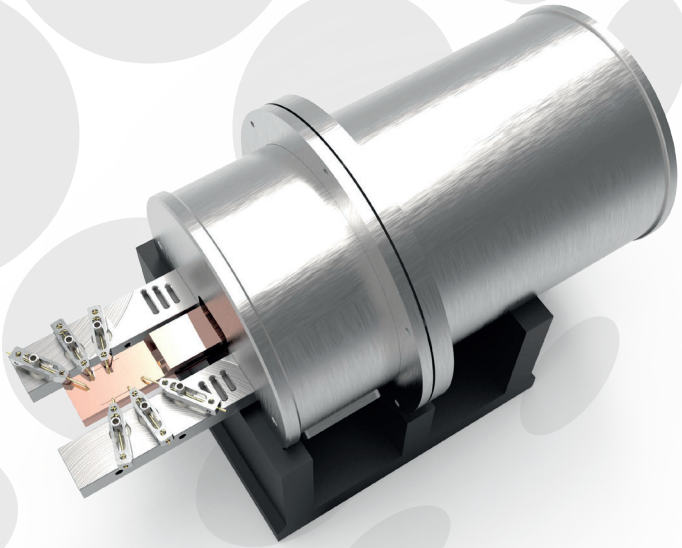
# ezHEMS

## Hall Effect Measurement System

Low Temperature ezHEMS Head
(with Liquid Nitrogen)


4-300K temperature range with
optional cryocooler

## Technical Specification

- Resistivity Measurement Range:$10^{-4}$ to $10^{9}$ Ω-cm (sample dependent)
- Mobility:1 to $10^{7}$cm$^{2}$ / Volt-sec (sample dependent)
- Concentration: $10^{7}$ to $10^{21}$ per cm$^{3}$ (sample dependent)
- Current Source: ±2 nA to ±20 mA, ±12 V compliance
- Minimum Hall voltage measurable: 0.10 µV
- Supports van der Pauw as well as Hall bar shaped samples
- Magnetic Field: 0.6 Tesla or 1 Tesla permanent magnet
- 80-800K (±5%) temperature range with ±0.2K resolution for Low Temperature, ±1K resolution for High Temperature. Entire temperature range in a single system.
- Lower and higher temperature ranges are optional
- Pt-100 resistance thermometer, 750K heater and PID temperature controller
- Computer control through USB interface
- Samples sizes from 5mm x 5mm to 15mm x15 mm & with thickness < 2mm
- 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