NanoMagnetics Instruments

Hall Effect Measurement System

- Multisample experiments with 4-contact van der Pauw anf 6-contact Hall
- Wide range of materials; GaAs, InP, InAs, Si, Ge, SiGe, HgCdTe, GaN, SiC, AIN, metal oxides and organic conductors
- Ideally suited for materials research, product development and quality control
- Sample resistance, resistivity, Hall coefficient, Hall mobility, carrier concentration or current-voltage characteristics
- Windows Operating System for system operation, data acquistion and analysis.

Suitable for:

GaAS based materials (HEMSTs,pHEMTs,HBTs,FETs,MESFETs), InP, InAs, GaN and AIN, Si, Ge, SiC, HgCdTd, ZnO, SiGe, MnGaAS, ZnO, infrared applications (LED, laser diodes, detectors), metal oxides, organic, inorganic conductors, ferrites etc.

Measurements Include:

- Mobility measurement
- Charge carrier measurements
- Resistivity measurements
- Van der Pauw measurements
- Hall bar measurements

Pole Caps:

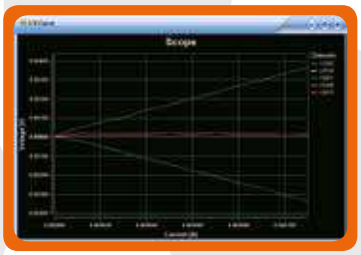
- Adjustable Pole caps
- 25mm face diamenter
- Continuously adjustable 0-130 mm pole gap
- Larger diamenter is optional, 50mm, 75mm

Electromagnet:

- ±2.5T @ 100 mm gap with 25mm pole face
- ±35V, ±70A Coils
- Magnetic field > ±IT @ 25mm pole gap
- High magnetic field strength with large pole separation
- Suitable for closed cycle cryostat integration, 3-300K
- Resistance in series coils: 0.5 Ω (20 °C)
- Water cooled

Chiller:

- Closed cycle water cooling
- Interlocks to coils over temperature



NanoMagnetics Gaussmeter:

- Magnetic Field Controlled sweeps using integrated Gaussmeter
- Field calibration with Hall probes
- High sensitivity magnetic field measurement
- Software control of all the parameters

Sample Holders:

Spring Loaded Design Option:

- Van der Pauw measurement design
- Four, Six or Eight contact Hall bar measurement design
- Easy sample mount with spring pin connections
- 5 mm x 5 mm sample sizes (larger sizes are optional)
- Multiple sample mount

Sample soldered/bonded Design Option:

- Van der Pauw measurement design
- Four or Six contact Hall bar measurement design
- Eight contact Hall bar measurement design (optional)
- 5 mm x 5 mm sample sizes (larger sizes are optional)
- Multiple (2 off) sample mount

Controller & Software

- Keithley Instruments pA/µV sensitivity state of the art SourceMeter
- Layer by Layer Mobility Analysis using our powerfull Software
- C# based fully automated software
- Magnet & System control with USB / IEEE / Ethernet interface
- Temperature control option for LT-HT measurements, 3 - 1,300K
- Field controlled measurements with the Gaussmeter
- Easy visualized set-ups for Van der Pauw and Hall Bar Measurements
- Free update of software for lifetime