

SPECIFICATIONS

The Linseis HCS L36 Basic System with high performance permanent magnets allows the characterization of metal and semiconducting samples according to the well-known Van-der-Pauw technique. It measures: Electrical Conductivity / Resistivity, Hall-Constant, Charge Carrier Concentration and Hall-Mobility. An optional Seebeck Coefficient measurement stage is available as extension kit. The system can be used to characterize various materials including Si, SiGe, SiC, GaAs, InGaAs, InP, GaN (N Type & P Type can be measured), metal layers, oxides and many more.

HCS L36 Basic

Measuring current	~ 1 nA up to 125 mA (8 decades, compliance +/- 12V)
Input impedance	100 MΩ
Hall tension	1μV up to 2.500μV (4 decades). Low noise, low drift electronics.
Digital resolution	300 pV
Carrier concentration	$10^7 \sim 10^{21} \text{ cm}^3$
Resistivity	$10^{-4} \sim 10^7 \text{ Ωcm}^*$
Mobility	$0.1 \sim 10^7 \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$ *
Sample geometry	Wire board for samples smaller than 8 mm x 8 mm 8 mm x 8 mm to 15 mm x 15 mm 18 mm x 18 mm to 25 mm x 25mm 43 mm x 43 mm to 50 mm x 50 mm From thin films up to thin bulk samples High temperature board 10mm x 10mm
Magnetic field	2x permanent magnets with +/- 0.7T** and Ø 120mm for highest uniformity (+/- 1% over 50 mm)
Atmospheres	Vacuum, red., oxid, inert
Temperature	LN2 up to 600°C in different versions (continuously from LT to HT) -160°C (controlled cooling) -196°C (quench cooling)

Seebeck option:

Sample geometry	L x W x H: 6 mm to 15 mm, 1 mm to 10 mm, thin film to 2 mm
Temp. Gradient	0.1 up to 20k
Technique	Slope technique with up to 10 readings per second
Thermocouple	Type K (other on request)
Illumination option	on request

Software:

Linseis Package	Platinum	Including configuration wizards, NIST routine, connection test, IV-plotting options, automatic data evaluation, comprehensive plotting capabilities, integrated database and many more.
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*for most materials

**depends on batch can vary by +/- 9%