

## 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

<b>Measuring current</b>	~ 1 nA up to 125 mA (8 decades, compliance +/- 12V)
<b>Input impedance</b>	100 MΩ
<b>Hall tension</b>	1μV up to 2.500μV (4 decades). Low noise, low drift electronics.
<b>Digital resolution</b>	300 pV
<b>Carrier concentration</b>	$10^7 \sim 10^{21} \text{ cm}^3$
<b>Resistivity</b>	$10^{-4} \sim 10^7 \text{ Ωcm}^*$
<b>Mobility</b>	$0.1 \sim 10^7 \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$ *
<b>Sample geometry</b>	Seebeck Sensor, Illumination Sensor, Gated hall bar from 5 x 5 mm to 12.5 x 12.5 mm, Maximum sample height 3 mm from 17.5 x 17.5 mm up to 25 x 25 mm, Maximum sample height 5 mm from 42.5 x 42.5 mm up to 50 x 50 mm, Maximum sample height 5 mm High Temperature board 10x10 mm, max. sample height 3 mm
<b>Magnetic field</b>	2x permanent magnets with +/- 0.7T** and Ø 120mm for highest uniformity (+/- 1% over 50 mm)
<b>Atmospheres</b>	Vacuum, red., oxid, inert
<b>Temperature</b>	LN2 up to 600°C in different versions (continuously from LT to HT) -160°C (controlled cooling) -196°C (quench cooling)

#### Seebeck option:

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

#### Software:

<b>Linseis Platinum Package</b>	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%