

Specifications HCS L36

	Basic	Advanced	Ultimate
Temperature Range	LN ₂ up to 600 °C in different versions (Continuously from LT to HT) -160 °C (Controlled cooling) -196 °C (Quench cooling)	RT up to 600 °C LN ₂ up to 600 °C in different versions	LN ₂ up to 600 °C in different versions (Continuously from LT to HT) -160 °C (Controlled cooling) -196 °C (Quench cooling)
Magnet	Permanent magnets up to 0.70 T DC field Pole diameter 120 mm Two magnet setup for bipolar measurement.	Magnet up to 0.5 T (AC or DC field) Multisegment Halbach configuration Frequency: 0.01 up to 1 Hz	Electromagnet with 76 mm of pole diameter. AC power supply for measurements up to 0.1 Hz at up to +-40 A
Current Source	DC 1 nA up to 125 mA (8 decades / Compliance +/- 12 V)		
Voltage Measurement	DC low noise / low drift 1 µV up to 2500 mV 4 decades amplification Digital resolution: 300 pV	DC low noise / low drift 1µV up to 2500mV 4 decades amplification Digital resolution: 300pV AC 20 nV up to 1V Features: GΩ range input impedance, variable integration times and amplification	

Sensors / Sample Geometry	Seebeck Sensor, Illumination Sensor, Gated hall bar From 5 x 5 mm² to 12.5 x 12.5 mm² Maximum sample height 3 mm From 17.5 x 17.5 mm² up to 25 x 25 mm² Maximum sample height 5 mm From 42.5 x 42.5 mm² up to 50 x 50 mm² Maximum sample height 5 mm High Temperature board from 10 x 10 mm², max. sample height 3 mm	Seebeck Sensor, Illumination Sensor, Gated hall bar From 5 x 5 mm² to 12.5 x 12.5 mm² Maximum sample height 3 mm High Temperature board from 10 x 10 mm², max. sample height 3 mm From 17.5 x 17.5 mm² up to 25 x 25 mm², max. sample height 3 mm	Seebeck Sensor, Illumination Sensor, Gated hall bar From 5 x 5 mm² to 12.5 x 12.5 mm² Maximum sample height 3 mm From 17.5 x 17.5 mm² up to 25 x 25 mm² Maximum sample height 5 mm From 42.5 x 42.5 mm² up to 50 x 50 mm² Maximum sample height 5 mm High Temperature board from 10 x 10 mm², max. sample height 3 mm
Resistivity Range	10 ⁻⁴ up to 10 ⁷ (Ωcm)	10 ⁻⁴ up to 10 ⁷ (Ωcm)	10 ⁻⁴ up to 10 ⁷ (Ωcm)
Carrier Concentration	10 ⁷ up to 5x10 ²² cm ⁻³	10 ³ up to 10 ²³ cm ⁻³	10 ⁷ up to 10 ²³ cm ⁻³
Mobility Range	0.1 ~ 10 ⁷ cm ² /Vs	10 ⁻² up to 10 ⁷ cm ² /Vs	10 ⁻² up to 10 ⁷ cm ² /Vs
Atmosphere	Vacuum, inert, oxidizing, reducing	Vacuum, inert, oxidizing, reducing	Vacuum, inert, oxidizing, reducing
Temperature Resolution	0.001 °C	0.001 °C	0.001 °C

* The actual measurement range depends on the properties of the sample and the geometry