

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)	-150 °C up to 200 °C (Controlled cooling) and RT up to 600 °C	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.	Multisegment cylindrical Halbach array up to 0.5 T, inner diameter 60 mm AC field up to 0.5 Hz or DC field	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 mm ² to 12.5 x 12.5 mm ² Maximum sample height 3 mm from 17.5 x 17.5 mm ² up to 25 x 25 mm ² Maximum sample height 5 mm from 42.5 x 42.5 mm ² up to 50 x 50 mm ² Maximum sample height 5 mm High Temperature board from 10 x 10 mm ² , max. sample height 3 mm	Seebeck Sensor, Illumination Sensor, Gated hall bar from 5 x 5 mm ² to 12.5 x 12.5 mm ² Maximum sample height 3 mm High Temperature board from 10 x 10 mm ² , max. sample height 3 mm From 17.5 x 17.5 mm ² up to 25 x 25 mm ² , max. sample height 3 mm	Seebeck Sensor, Illumination Sensor, Gated hall bar from 5 x 5 mm ² to 12.5 x 12.5 mm ² Maximum sample height 3 mm from 17.5 x 17.5 mm ² up to 25 x 25 mm ² Maximum sample height 5 mm from 42.5 x 42.5 mm ² up to 50 x 50 mm ² Maximum sample height 5 mm High Temperature board from 10 x 10 mm ² , 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 ⁷ up to 10 ²³ cm ⁻³	10 ⁷ up to 10 ²³ cm ⁻³
Mobility Range	0.1 ~ 107 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