



Thermometry & Accessories

Entropy Sensors

RuOx sensors for the milliKelvin range:

- For various temperatures to 20mK
- Individual or batch calibration
- Very small magneto-resistance
- Magneto-resistance calibration
- Silver housing
- Integrated SMD connector



Entropy RuOx Temperature Sensors

Heat capacity: Very small heat capacity due to small mass, non-filled housing, and very little pure epoxy used in the construction – thus no heat-capacity anomalies from epoxy fillers.

No residual heat leak: Entropy uses pure (> 3N) silver housings - thus constant, small heat capacity in magnetic fields compared to copper. Matching accessories and copper housings can also be supplied.

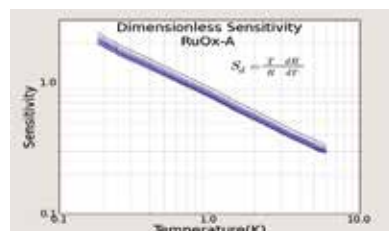
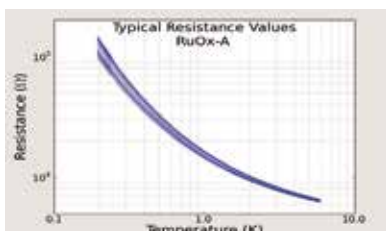
Entropy RuOx	Usage	Temperature	Features
A	Mid-Temperature	< 200mK	■ Individual calibration
B	Low-Temperature	< 20mK	■ Calibrated magneto-resistance ■ Individual or batch calibration
C	Magnetic Field	< 50mK	■ Very small magneto-resistance ■ $\Delta T/T < 1\%$ up to 7Tesla
D	Custom	< 20mK	■ Selected resistance at specified temperature ■ Increased sensitivity at specified temperature ■ Lower temperature or increased range ■ Small magneto-resistance ~5%

Just tell us what you need. We also have custom types for even lower temperatures, chips on Ag-foils or naked.

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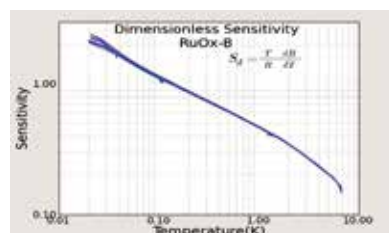
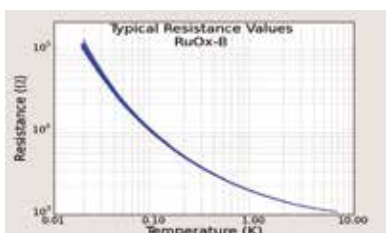
RuOx-A

- All-purpose mid-temperature
- Individually calibrated from 6K to < 200mK
- Typical resistance ~100kΩ at 200mK



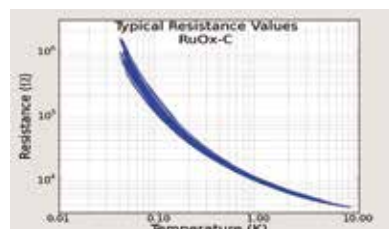
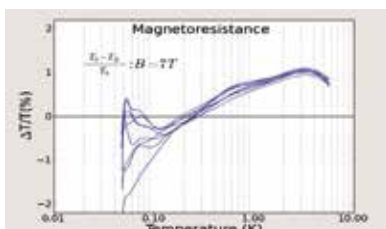
RuOx-B

- Low-temperature
- Individually calibrated from 7K to < 20mK
- Typical resistance ~10kΩ at 100mK



RuOx-C

- Very small magneto-resistance
- Individually calibrated from 7K to < 50mK
- Typical resistance ~100kΩ at 100mK
- Less than 1% temperature deviation up to 7Tesla



Calibration

Calibrated against Ge-standard and He3 melting curve thermometers. All sensors are offered with individual calibrations, and batch calibrations can be offered for type B.

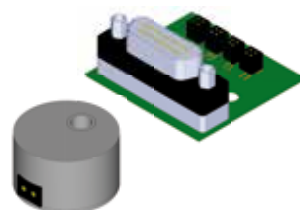
Magneto-resistance

All sensors have measured magneto-resistances for compensation in magnetic fields. Type C has very small magneto-resistance down to 50mK ($\Delta T/T < 1\%$ up to 7Tesla).

Thermometry Accessories

For easy and reliable mounting and wiring:

- Circuit boards
- Confectioned cables all the way from your resistance bridge to the thermometer
- Micro-D 25 connectors with non-magnetic, stainless steel housing



Just tell us what you need. The modular design of the complete system allows us to implement customer wishes very easily.

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