

# MPS™ Refrigerant Gas Sensors

## Industry-Leading Performance

NevadaNano's Molecular Property Spectrometer™ (MPS) Refrigerant Gas Sensors provide accurate and reliable detection of refrigerants in existing and emerging applications. Whether you are converting refrigeration systems to mildly flammable low GWP A2L's or to highly flammable A3's or even proactively managing your A1 leaks, the MPS has best in class performance. MPS's 10+ year lifetime and the industry's first no field calibration required, provides an attractive total cost of ownership. **Available today!**



Mini



S4 IS

The MPS platform is hardened to harsh environmental conditions including rapid transients that deliver the best performance with a very low false positive rate. With its extremely fast response time, the accurate sensor output is delivered in seconds. The sensor is immune to poisons and with built-in self-test functions, you are assured the MPS sensor is working within specification. The MPS comes in two different packaging options. The S4 IS is hardened for commercial ATEX certified applications, and the cost-effective Mini targets residential applications. Both packages meet the exact same performance standards and can be calibrated for any of the refrigerants listed below. Call us if you don't see your refrigerant of interest listed.

## Features

- Meets UL 60335-2-40 & ASHRAE 15 requirements
- Wide environmental operating range with no cross-sensitivity to rapid T & RH changes
- No false positives
- 10+ year lifetime
- Extremely fast response time
- Built-in self-test for fail-safe operation
- Immune to poisoning
- Industrial and residential packaging options
- Third-party tested
- Available now for integration



## Operating Principle

The Molecular Property Spectrometer (MPS) Refrigerant Gas Sensor's transducer is a micro-machined membrane with an embedded Joule heater and resistance thermometer. The MEMS transducer is mounted onto a PCB and open to ambient air. Presence of a flammable refrigerant gas causes changes in the thermodynamic properties of the air/gas mixture that are measured by the transducer. Sensor data are processed by patent-pending algorithms to report an accurate concentration.

## MPS Refrigerant Gas Sensor Product Family

Sensors are calibrated for specific refrigerant

Classifications	MPS A2L Sensors	MPS A1 Sensors	MPS A3 Sensors
Current Products	R32 R454 blends	R404 R407A	R290 (propane)
Applications	Residential HVAC	Commercial Refrigeration	Commercial Refrigeration
LOD Range	3-100% LEL	400 - 2,500ppm	3-100% LEL
Resolution	0.1% LEL	1 ppm w/ Slow Leak Rate of 15 ppm/min	0.1% LEL
Certifications	UL60335-2-40 Ready ATEX Certified	NA	UL60079-29-1 Ready ATEX Certified
Response Time (T90)	<8 seconds	<30 Seconds	<20 seconds
Temp Operating Range	-40 to 75 C	-40 to 30 C	-40 to 75 C
Humidity Operating Range	0 to 100% RH	0 to 100% RH	0 to 100% RH
Pressure Operating Range	80 to 120 kPa	80 to 120 kPa	80 to 120 kPa
Lifetime	10+ Years	10+ Years	10+ Years
Output Options	Analog Out or UART	Analog Out or UART	Analog Out or UART
Operating Voltage	3.3 - 5.0 +/- 5% VDC	3.3 - 5.0 +/- 5% VDC	3.3 - 5.0 +/- 5% VDC
Current Consumption	8.9mA typical	8.9mA typical	8.9mA typical