

MPS™ A2L Refrigerant Gas Sensor Industry-Leading Performance

NevadaNano's Molecular Property Spectrometer (MPS) A2L Refrigerant Gas Sensor provides accurate and reliable detection of mildly flammable (A2L) R32, R454b and other low global warming refrigerant gases common in HVAC applications. With a 10+ year calibration interval and lifetime, the MPS A2L Refrigerant Gas Sensor delivers industry-leading performance and the lowest total cost of ownership.



A2L Mini

Operating Principle

The Molecular Property Spectrometer (MPS) A2L 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.



A2L IS

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 calibration interval
- 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





Performance

Gases Detected **R-32, R-454 blends, R-1234yf**

Sensor Range **0-100 %LEL**

Accuracy at 25 %LEL **±3 %LEL**

Accuracy guaranteed across full environmental range.

Resolution **0.1 %LEL**

Response Time (T90) **~5 seconds**



Environmental Operating Range

Temperature **-40° to 75°C**

Humidity **0 to 100 %RH**

Pressure **80 to 120 kPa**



Electrical

Operating Voltage **3.3 - 5.0 ±5% VDC**

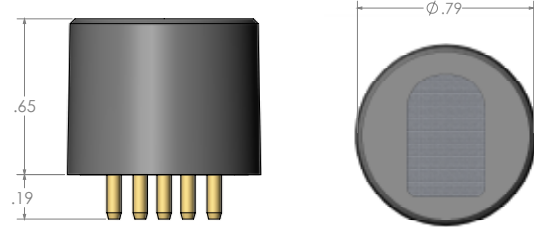
Current Consumption [mA] **Average 8.9** **Operating Range 5.0 - 21.0**

Digital Input/Output **Communication: 4 or 5 pin UART/I2C** **Logic Level: 3.0 V programmable analog out (optional)**



Mechanical

A2L IS



Dimensions 0.65 in (H) x 0.79 in (Ø)

Mass 8.0 +/- 0.5 grams

Body Material Ultem PEI

A2L Mini



Dimensions 1.025 in (L) x .90 in (W) x .23 in (H)

Mass 3.0 +/- .5 grams

Body Material Polycarbonate

