Platinum Series Refrigerant Gas Sensor

For detection and measurement of refrigerant gases

PST gas sensors are designed with patented nondispersive infrared technology for the detection and measurement of the presence of refrigerant gases. To meet the growing need for lower global warming potential (GWP) refrigerant gases, Dynament offers sensors for both flammable (A3, A2, A2L) and non-flammable (A1) refrigerants. The Dynament Platinum NDIR sensor has a twenty-year history of meeting and exceeding gas detection needs in the most challenging of environmental applications.

The Platinum series platform provides a linearized, high resolution measurement of refrigerant gases over the lower explosive limit range.

Key Features

- Successfully passed all performance tests conducted in an independent study by AHRTI with full results available through the published report, Refrigerant Detector Characteristics for Use in HVACR Equipment, March 2020
- Measures refrigerant gases in the LFL range with a resolution of 0.05% (500ppm)
- Ex d IIC Certified (also available in non certified models)
- Plug-and-Play functionality: Each sensor contains all the necessary optics, electronics and firmware to provide a linearized, temperature-compensated output. Expedites the time to market
- Choice of output format digital (floating point and binary), direct pellistor replacement and industry standard 0.4 to 2 volts
- Manual calibration option can be performed without digital commands
- Output can be scaled in % volume, % Full Scale, or PPM; gas dependent
- User configurable using USB powered Premier Configuration Unit
- Enhanced EMC protection
- Fail safe operation
- 5 year warranty

Specification @ 20 °C (68 °F) ambient temperature

Operating Voltage Range:
3.0-5.0 VDC

Linearity:
±10 of the applied gas, or +/- 0.05% volume, whichever is greater

Accuracy:
±2% at 20°C, 1 bar atmospheric pressure, calibration gas applied

Pressure:
± 5% of the calibration pressure to maintain the accuracy limits

Warm up time:
To final zero ± 2% full scale: approximately 1 minute, some sensors may take longer.

Response Time T90:
<30s

Zero Repeatability:
± 0.05% volume

Span Repeatability:
± 2% full scale @ 20 °C (68 °F), 1 bar pressure, at calibration point

Operating temperature range:
-20 °C to +50 °C (-4 °F to 122 °F)
-40 °C to +75 °C (-40 °F to 167 °F) for XTR

Temperature performance -40 °C to +75 °C (-40 °F to 167 °F):
± 0.1% volume or ± 10% of reading up to 50% of full scale, ± 15% of reading from 50% to 100% of full scale, or 2% of full scale whichever is greater

Long term zero drift:
± 0.05% volume per month

Storage temperature range:
-20 °C to +50 °C (-4 °F to 122 °F)
-40 °C to +75 °C (-40 °F to 167 °F) for XTR version

Humidity range:
0 to 95% RH non condensing.

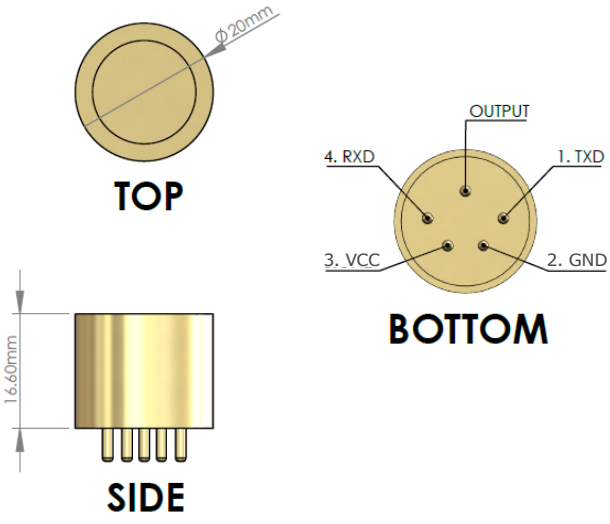
Digital signal format:
8 data bits, 1 stop bit, no parity. 2.8V logic level

Standard baud rates:
38,400, 19,200, 9600, 4800

Warranty:
5 years

Weight:
15 grams

Mechanical Detail



Refrigerant Gases and Ranges

Gas Type	Range	Resolution	Safety Classification
R32	0-15% volume	0.05% vol. 500ppm	A2L
R454B	0-12% volume	0.05% vol. 500ppm	A2L
R454C	0-8% volume	0.05% vol. 500ppm	A2L
R290	0-2% volume	0.01% vol. 100ppm	A3
R744	0-5% volume	0.01% vol. 100ppm	A1
R744	0-500ppm	10ppm	A1

Additional ranges and gases available upon request.

Safety Classifications Explanation*

Toxicity	Flammability	LFL	Flame Propogation
A: Lower Toxicity	1: Non flammable	N/A	No flame propagation
	2: Lower flammability	>3.5% vol.	Exhibit flame propagation
B: Higher Toxicity	2L: Lower flammability	>3.5% vol.	Exhibit flame propogation**
	3: Higher flammability	≤3.5% vol.	Exhibit flame propogation

*Flame propagation testing conducted at 60°C and 101.3kpa
**Exhibit flame propagation & maximum burning velocity of ≤ 10 cm/s when tested at 23°C and 101.3 kPa

Compliance and Regulations

Dynament is part of the Process Sensing Technologies Group (PST).

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