

Platinum Series Nitrous Oxide Sensor

For detection and measurement of nitrous oxide in ppm and % volume ranges



The Platinum series sensors contain all the necessary optics, electronics and firmware to provide a linearized, temperature-compensated output.

The sensors are available in Industrial Ex d IIC Certified, Mining M1 Certified, UL Approved, and Non-Certified versions. If you have a requirement for a non-standard range, please contact us and we will be pleased to assist you with your application.

Key Features

- Industrial Ex d IIC Certified, Mining M1 Certified available for all variants
- All sensors carry a 5 year warranty
- Measures nitrous oxide from 0 to 1,000ppm with a resolution of 20ppm
- Measures nitrous oxide from 0 to 1% volume with a resolution of 0.01%
- Offers reduced response times when compared with earlier versions
- Choice of output format digital output (floating point and binary), direct pellistor replacement or industry standard 0.4 to 2 volts
- Manual calibration option can be performed without digital commands
- User configurable using USB powered Premier Configuration Unit
- Output can be scaled in % volume or % Full Scale
- Internal Flash memory allowing sensor firmware updates via configuration unit
- Enhanced EMC protection
- Plug-and-Play functionality: Contains all the necessary optics, electronics and firmware to provide a linearized, temperature-compensated output nitrous oxide, expediting time to market

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

Operating Voltage Range:	
3.0-5.0 VDC	
Operating current / power (@3VDC)	
80mA / 240mW	
Linearity	
The output is linear within ± 10% of the applied gas, or ±0.05% volume, whichever is greater.	
Accuracy at 20°C, 1 bar atmospheric pressure, calibration gas applied	
±5%	
Pressure	
Accuracy limits are maintained at pressures within ± 5% of the calibration pressure.	
Warm up time	
To final zero ± 2% full-scale: approximately 10 minutes, some sensors may take longer.	
Response time	
T50	T90
<15s	<30s
Zero repeatability	
±2% of full scale	
Span repeatability	
±2% of full scale	
Long term zero drift	
±1% of full scale / month or ±100ppm, whichever is greater	
Operating and storage temperature range	
-20°C to +50°C (-4°F to +122°F)	
Temperature performance	
±0.1% vol. or ±10% of applied gas up to 50% of full scale, ±15% of applied gas from 50% to 100% of full scale, or 2% of full scale, which ever is greater.	

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 / 9,600 / 4,800
MTBF
>5 years
Weight:
15 grams
Warranty
5 years

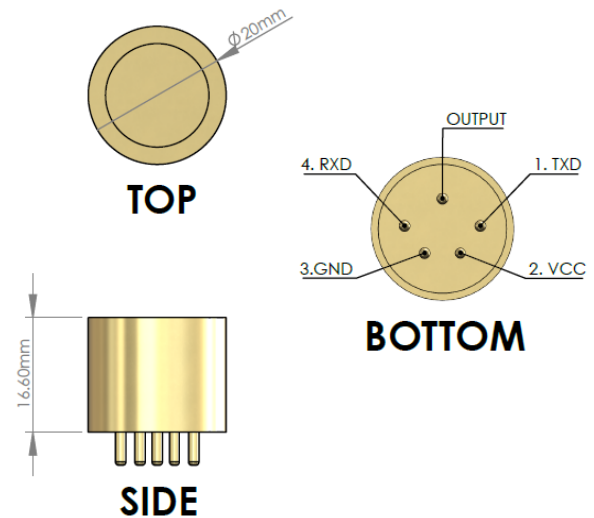
Recommended configuration for 0-1000ppm N2O range

Zero suppression	Resolution	Calibration gas	User minimum alarm
±100ppm	20ppm	1000ppm	300ppm

Nitrous Oxide Ranges

Gas Type	Range	Resolution
N ₂ O	0-1000ppm	20ppm
N ₂ O	0-1% vol.	0.01%

Mechanical Detail



Compliance and Regulations



Sensors which are not configured with these recommendations cannot be held to the specifications stated in this datasheet.

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

As customer applications are outside of PST control, the information provided is given without legal responsibility. Customers should test under their own conditions to ensure the equipment is suitable for the intended application(s).

We adopt a continuous development program which sometimes necessitates specification changes without notice.

For technical assistance or enquiries about other options, please contact us here:

sensors@processsensing.com

HERMITAGE LANE INDUSTRIAL ESTATE, KINGS MILL WAY, MANSFIELD, NOTTINGHAMSHIRE, NG18 5ER | TEL: 44 (0) 1623 663636