

Infrared Gas Sensors

Platinum Series Nitrous Oxide Sensor



- Industrial Ex d IIC Certified, Mining M1 Certified available for all variants
- Measures nitrous oxide from 0...1000 ppm with a resolution of 20 ppm
- Output can be scaled in % volume or % full Scale
- Enhanced EMC protection

Description

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.



Specifications @ 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 $\pm 10\%$ of the applied gas, or $\pm 0.05\%$ volume, whichever is greater.
Accuracy at 20°C, 1 bar atmospheric pressure, calibration gas applied	$\pm 5\%$
Pressure	Accuracy limits are maintained at pressures within $\pm 5\%$ of the calibration pressure.
Warm up time	To final zero $\pm 2\%$ full-scale: approximately 10 minutes, some sensors may take longer.
Response time	
T50	T90
< 15 s	< 30 s
Zero repeatability	$\pm 2\%$ of full scale
Span repeatability	$\pm 2\%$ of full scale
Long term zero drift	$\pm 5\%$ of full scale / month
Operating and storage temperature range	- 20...+ 50°C (- 4...+ 122°F)

Temperature performance

$\pm 0.1\%$ vol. or $\pm 10\%$ of applied gas up to 50 % of full scale, $\pm 15\%$ of applied gas from 50 % to 100 % of full scale, or 2 % of full scale, whichever is greater.

Humidity range	0...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
Carbon dioxide cross sensitivity	1000 ppm CO ₂ = < 100ppm N ₂ O

Recommended configuration for 0...1000 ppm N₂O range

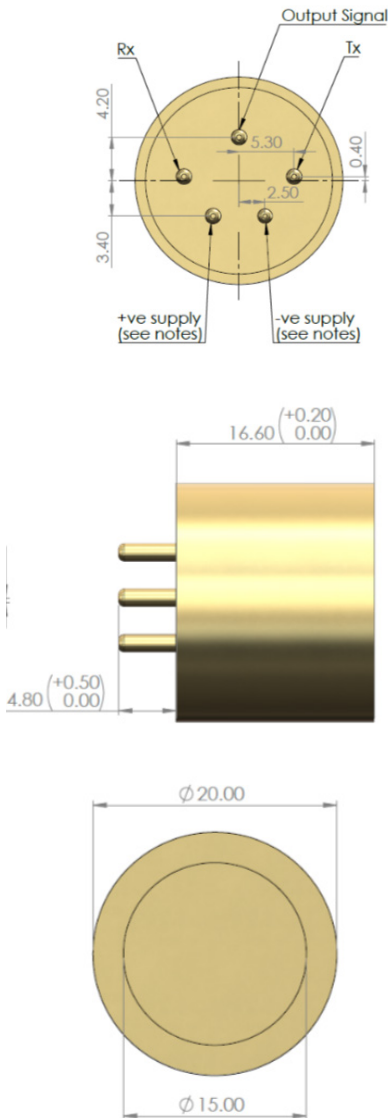
Zero suppression	Resolution	Calibration gas	User minimum alarm
± 100 ppm	20 ppm	1000 ppm	300 ppm

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

Nitrous Oxide Ranges

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

Dimensions and Wiring Diagram



Notes

1. Tolerance : +/- 0.15 unless otherwise stated.
2. Recommended PCB socket Wearnes Cambion Ltd code 450-3326-01-06-00
3. Use anti-static precautions when handling.
4. Do not cut pins.
5. Do not solder directly to pins.
6. The labelling adds up to 0.2mm to the outer diameter and up to 0.2mm to the overall height.

Dynament is part of Dwyer Omega (DO)

As customer applications are outside of DO's control, the information provided is given without legal responsibility. Customers should test the equipment under their own conditions to ensure it 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@dwyeromega.com

Compliance and Regulations

