

Platinum Series Nitrous Oxide Sensor

For detection of nitrous oxide in ppm and % volume ranges



Dynamant infrared sensors operate by using the NDIR principle to monitor the presence of the target gas. The sensor contains a long life tungsten filament infrared light source, an optical cavity into which gas diffuses, a dual temperature compensated pyroelectric infrared detector, an integral semiconductor temperature sensor and electronics to process the signals from the pyroelectric detector.

The Platinum series N₂O sensor is capable of detecting nitrous oxide in the range 0-1000ppm. Previously, only 0-1% volume N₂O was possible with the Standard series sensors.

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% vol. 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 % FSD
- Internal Flash memory allowing sensor firmware updates via configuration unit
- Enhanced EMC protection

Dynamant Limited

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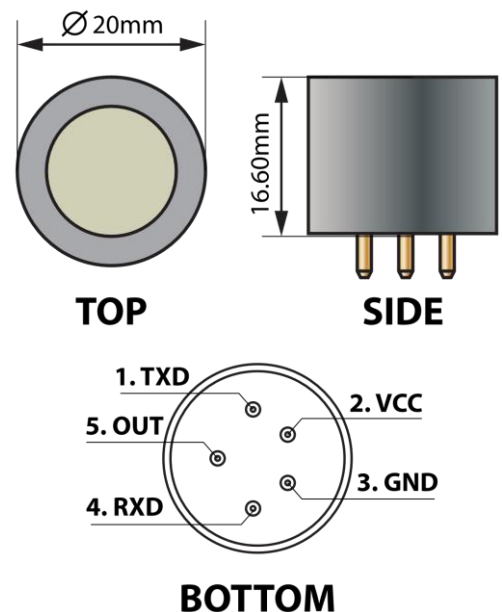
SPECIFICATION @ 20°C (68°F) ambient temperature

Operating Voltage Range:	3.0-5.0 VDC
Volume ranges:	0-1% volume
PPM range:	0-1000ppm (± 100 ppm zero suppression)
Resolution:	0.01% for volume readings. 20ppm for parts per million readings.
Linearity:	$\pm 10\%$ 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:	$\pm 5\%$ of the calibration pressure to maintain the accuracy limits
Warm up time:	To final zero $\pm 2\%$ full scale: approximately 1 minute, some sensors may take longer.
Response Time T50:	<10s
Response Time T90:	<30s
Zero Repeatability:	$\pm 2\%$ of full scale
Span Repeatability:	$\pm 2\%$ of full scale
Long term zero drift:	$\pm 1\%$ of full scale/month
Operating temperature range:	-20°C to +50°C (-4°F to 122°F)
Temperature performance -40°C to +75°C (-40°F to 167°F):	$\pm 10\%$ of reading up to 50% full scale & $\pm 15\%$ of reading from 50% to 100% full scale
Storage temperature range:	-20°C to +50°C (-4°F to 122°F)
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

Nitrous Oxide Ranges

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

MECHANICAL DETAIL



COMPLIANCE AND REGULATIONS



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