Infrared Gas Sensors

Platinum Series Carbon Dioxide Sensor

DYNAMENT
INFRARED GAS SENSORS
a DwyerOmega brand

- Industrial Ex d IIC Certified and Mining M1 Certified available for all variants
- SIL1 certification available for most variants
- All sensors carry a 5 year warranty
- Offers reduced response times when compared with earlier versions

Description

The Platinum series sensors contain all the necessary optics, electronics and firmware to provide a linearized, temperature-compensated output. Within the Platinum series are low-power options and dual-gas, high resolution methane / carbon dioxide sensor that provides the capability to simultaneously monitor methane and carbon dioxide in a single sensor package, consuming the power of a single infrared sensor.

The sensors are available in Industrial Ex d IIC Certified, Mining M1 Certified, UL Approved, and Non-Certified versions. Low power and EN50271 / SIL1 certified software versions are also available in most combinations.

Specifications

Operating Voltage Range	3.0-5.0 VDC
Operating current / power (@3VDC)	
Low Power 2	8mA/24mW
Low Power	15mA/45mW
Regular Power	80mA/240mW
High Power	140mA/420mW
Linearity	
Low Range CO2	The output is linear within ± 10% of the applied gas, or ±0.05% volume, whichever is greater.
Mid Range CO2	The output is linear within ± 10% of the applied gas, or ±2% of full scale, whichever is greater.
High Range CO2	The output is linear within ±10% of applied gas up to 80% full scale and ±15% of applied gas from 80% to 100% full scale, or ±3% of full scale, whichever is greater.
Accuracy at 20°C, 1 bar atmospheric pressure, calibration gas applied	±2%
Pressure	Accuracy limits are maintained at pressures within ± 5% of the calibration pressure.

Response time	
T50	<10s
T90	<30s
Zero repeatability	±2% of full scale
Span repeatability	±2% of full scale
Long term zero drift	±1% of full scale / month
Warm up time	To final zero ± 2% full-scale: approximately 1 minute, some sensors may take longer.
Operating and storage temperature range	
Standard	-20°C to +50°C I -4°F to +122°F
Extended (XTR)	-40°C to +75°C I -40°F to +167°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

Carbon Dioxide Ranges	
Gas Type	**Range I Resolution**
CO2	0-1000ppm I 10ppm
CO2	0-5000ppm I 10ppm
CO2	0-2% vol. I 0.01%
CO2	0-5% vol. I 0.01%
MCO2	0-10% vol. I 0.01%
HCO2	0-100% vol. I 0.1%

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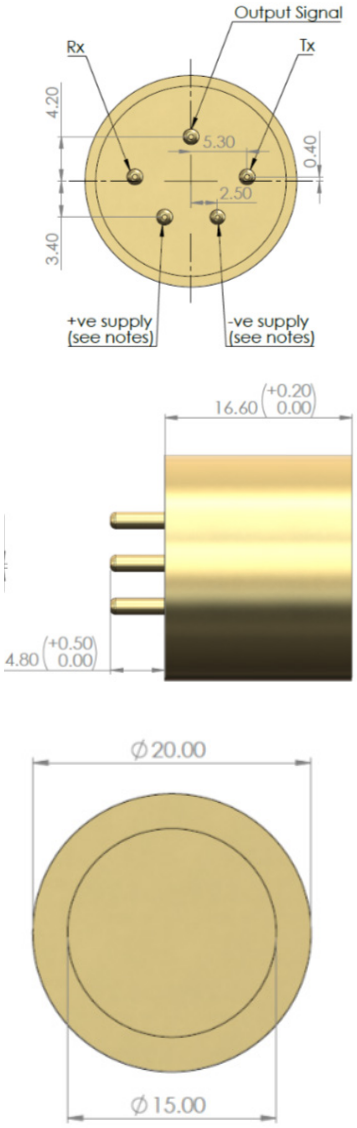
Dimensions and Wiring Diagram



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

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