

# Platinum Series Carbon Dioxide Sensor

For detection of carbon dioxide 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. Dual gas version available, designed to detect both hydrocarbons and carbon dioxide within the same 20mm diameter package as the carbon dioxide sensor. The dual sensor is available with digital communications only.

## FEATURES

- Available in 3 power variants, 80mA, 15mA and 8mA
- 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
- Measures carbon dioxide from 0 to 10,000ppm with a resolution of 10ppm
- Measures carbon dioxide from 0 to 100% vol. with a resolution as low as 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

## Dynamant Limited

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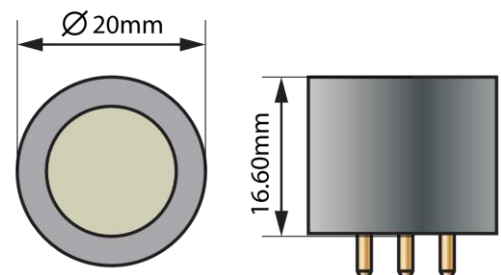
### SPECIFICATION @ 20°C (68°F) ambient temperature

<b>Operating voltage range</b>	3.0 – 5.0 VDC
<b>Volume ranges</b>	0-5%, 0-10%, 0-100% volume
<b>PPM range</b>	0-500ppm up to 0-10,000ppm
<b>Resolution</b>	0.01% for readings up to 10% volume 0.1% for readings from 10% up to 100% volume carbon dioxide 10ppm for all ppm ranges
<b>Linearity</b>	± 10% of the applied gas, or +/-0.05% volume, whichever is greater.
<b>Accuracy</b>	± 2% full scale @ 20°C (68°F), 1 bar pressure, at calibration point
<b>Pressure</b>	± 5% of the calibration pressure to maintain the accuracy limits
<b>Warm up time</b>	To final zero ± 2% full-scale: approximately 1 minute, some sensors may take longer.
<b>Response time T50</b>	<10s
<b>Response time T90</b>	<30s
<b>Zero repeatability</b>	±2% of full scale
<b>Span repeatability</b>	±2% of full scale
<b>Long term zero drift</b>	± 1% of full scale / month
<b>Operating temperature range</b>	-20°C to +50°C (-4°F to 122°F) (-40°C to +75°C (-40°F to 167°F) for XTR)
<b>Temperature performance</b> -40°C to +75°C	± 10% of reading up to 50% full scale and ± 15% of reading from 50% to 100% full scale
<b>Storage temperature range</b>	-20°C to +50°C (-4°F to 122°F) -40°C to +75°C (-40°F to 167°F) for XTR version
<b>Humidity range</b>	0 to 95% RH non-condensing.
<b>Digital signal format</b>	8 data bits, 1 stop bit, no parity. 2.8V logic level
<b>Standard baud rates</b>	38,400, 19,200, 9600, 4800
<b>Warranty</b>	5 years
<b>Weight</b>	15 grams

### CO<sub>2</sub> Ranges

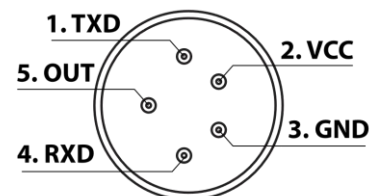
Gas type	Range	Resolution
CO <sub>2</sub>	0-500 ppm	10ppm
CO <sub>2</sub>	0-1000 ppm	10ppm
CO <sub>2</sub>	0-2000 ppm	10ppm
CO <sub>2</sub>	0-5000 ppm	10ppm
CO <sub>2</sub>	0-10,000 ppm	10ppm
CO <sub>2</sub>	0-2% vol	0.01%
CO <sub>2</sub>	0-5% vol	0.01%
MCO <sub>2</sub>	0-10% vol	0.01%
HCO <sub>2</sub>	0-20% vol	0.1%
HCO <sub>2</sub>	0-30% vol	0.1%
HCO <sub>2</sub>	0-60% vol	0.1%
HCO <sub>2</sub>	0-100% vol	0.1%

### MECHANICAL DETAIL



TOP

SIDE



BOTTOM

### COMPLIANCE AND REGULATIONS



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