DYNAMENT
INFRARED GAS SENSORS

Product Datasheet
DS0004

Platinum Series Hydrocarbon Sensor

For detection of hydrocarbon gases in the % volume range

Dynament 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 hydrocarbon 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, Mining M1 Certified available for all variants
- SIL1 certification available for most variants
- All sensors carry a 5-year warranty
- Measures methane from 0 to 100% volume with a resolution of 0.01 % for 0-5% methane and 0.1% for 5-100% volume
- Multiple gas ranges enable the accurate detection of 0-100% vol. methane and 0-2% vol. propane with one sensor
- 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 % LEL
- Internal Flash memory allowing sensor firmware updates via configuration unit
- Enhanced EMC protection

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

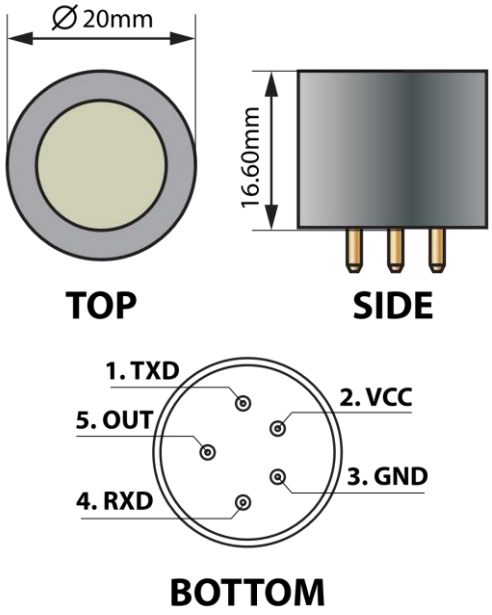
Operating Voltage Range:	3.0 – 5.0 VDC
Methane measuring range:	0-5%, 0-100% volume, or both
Propane measuring range:	0-2% volume
Resolution:	0.01% for readings up to 5% volume methane 0.1% for readings from 5% up to 100% volume methane 0.01% propane for all readings
Linearity:	± 10% of the applied gas, or +/-0.05% volume, whichever is greater.
Accuracy:	± 2% full scale @ 20°C (68°F), 1 bar pressure, at calibration point
Pressure	± 5% of the calibration pressure to maintain the accuracy limits
Warm up time:	To final zero ± 2% full-scale: approximately 1 minute, some sensors may take longer.
Response Time T50:	<10s
Response Time T90:	<30s
Zero Repeatability:	±0.05% volume methane, ±0.03% volume propane
Span Repeatability:	± 0.1% vol. methane at 5% applied gas ± 2% vol. methane at 100% applied gas ±0.06% vol. propane at 2% applied gas
Long term zero drift:	± 0.05% volume methane per month ±0.03% volume propane per month
Operating temperature range:	-20°C to +50°C (-4°F to 122°F) (-40°C to +75°C (-40°F to 167°F) for XTR)
Temperature performance -40°C to +75°C(-40°F to 167°F):	± 0.1% volume or ± 10% of reading up to 50% of full scale, ± 15% of reading from 50% to 100% of full scale, or 2% of full scale whichever is greater
Storage temperature range:	-20°C to +50°C (-4°F to 122°F) -40°C to +75°C (-40°F to 167°F) for XTR version
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

COMPLIANCE AND REGULATIONS

Hydrocarbon Ranges

Gas Type	Range	Resolution
METHANE	0 – 5% volume	0.01%
METHANE	0 – 100% volume	0.1%
METHANE	0-5-100% volume	0-5% vol: 0.01% 5 – 100% vol: 0.1%
PROPANE	0 – 2% volume	0.01%
PROPANE	0 – 100% volume	0.1%
METHANE & PROPANE	0-5-100% vol. CH_4 0-2% Vol. C_3H_8	0-5% vol CH_4: 0.01% 5-100% vol CH_4: 0.1% 0-2% vol C_3H_8: 0.01%

MECHANICAL DETAIL



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