

OXYGEN GAS ANALYZER

OxyHound | Optical Quench Luminescence Technology for Gaseous Samples



- Real-time oxygen analysis in natural gas, biogas & more
- Cost-effective analyzer using optical quench luminescence
- Low maintenance and no moving parts, long sensor life
- Built for Division 2 & Zone 2 hazardous locations
- No cross-sensitivity with CO₂, H₂S, NH₃, or SO₂
- Replaces electrochemical, zirconia & paramagnetic analyzers

Applications

• Gas Processing Facilities • Natural Gas Pipeline • Chemical Plants • Gas Well Testing & Analysis • Landfills & Biogas

Product Description

The OxyHound is a highly efficient process oxygen analyzer, ideal for real-time and continuous oxygen level monitoring across various settings. This versatile tool functions effectively as an O₂ analyzer or oxygen meter.

Utilizing an optical quench luminescence approach, the OxyHound offers precise oxygen measurements in a gaseous phase (ppmv, on a molar basis). It features a user-friendly design, including a flexible fiber optic cable connected to a compact sensor that is easily serviceable in the field.

The OxyHound is designed to cater to a wide range of industrial environments. Its robust construction and extensive safety designs make it a reliable choice for indoor and outdoor settings. Key industries served include Oil & Gas, biogas, manufacturing, food & beverage, and renewables.

In the Oil & Gas sector, OxyHound is instrumental in measuring trace O₂ levels in various operations, from VRUs to Enhanced Oil Recovery processes. It is also beneficial in manufacturing sectors like fiber optic production, annealing furnaces, and more. Additionally, it's well-suited for renewable energy applications, including bio-gas and ethanol production.

OxyHound excels in environments with contaminants, such as H₂S, CO₂, and H₂. Its maintenance-friendly design eliminates the need for electrolyte changes or membrane maintenance. This makes it an advantageous replacement over older technologies like paramagnetic analyzers, electrochemical cells, and in some instances, zirconia and Tunable Diode Laser (TDL) technologies.

The OxyHound analyzer operates using advanced optical quench luminescence, tailored for precise oxygen measurement in process streams. This technology hinges on the phase modulation of an oxygen-specific luminophore's luminescent decay time, enabling accurate calculation of oxygen's partial pressure. OxyHound measures the phase shift and intensity variation between the excitation light and the fluorescent response. From these measurements, the oxygen concentration is precisely calculated by the on-board computer in the analyzer in real-time.

KECO

Typical Specifications

RANGE

- 0-200 ppm

LIMIT OF DETECTION*

- 0.5 ppm

RESOLUTION*

- 10 ± 0.5 ppm
- 100 ± 0.8 ppm
- 200 ± 1.5 ppm

ACCURACY*

- ±1% of full scale

TEMP RANGE (ambient air and sample)

- 0C to 40C

RESPONSE TIME (T90)*

- <10 seconds response to O2

DRIFT*

- <2.0 ppm within 30 days @ 60 sec. sample rate

POWER

- 110/220VAC 50/60 Hz or 24VDC

OUTPUT

- 4-20mA DC (self-powered)
- RS-485 Modbus
- TCP/IP Ethernet Modbus

ELECTRICAL CLASS

- Class I, Div 2 (Zone 2) Groups B, C, D

*Based on laboratory conditions, atm pressure @ 20C

OPERATION PRESSURE

- Max pressure input 100 psig (constant pressure required)
- Minimum pressure input 5 psig (constant pressure required)

DIMENSIONS (Subject to change)

- Height: 20 inches
- Width: 10 inches
- Depth: 7 inches

WEIGHT

- 25 Lbs

FEATURES

- Data Logger (SD card not included)
- Weather resistant packaging
- Sample flow meter (pressure regulator optional)
- Calibration port with three way valve (switch between process and calibration gas)

OPTIONS

- Alarm relays (SPDT, 250 VAC @ 5 Amps)
- KECO Cloud Connect: remotely monitor analyzer on any web connected device using LTE-M
- Solar System (panels, mounting pole, batteries, controller)
- Fugitive Emission Control Unit for vent
- Sampling System (Simple): Pressure regulator/gauge
- Sample System for Gasses Entrained with Light Liquids: Pressure regulator/gauge, Liquid Block, by-pass with needle valve
- Sampling System for LPG, LNG (heated)
- Sample Probe to be installed at tap point
- Self standing rack (includes sun/rain shield, drip pan, fork lift holes, foundation mount holes). Can mount analyzers on front and back)

CROSS-SENSITIVITY DATA

- No degradation or cross-interference from H2S, CO2, NH3, gaseous SO2, sulfate, chloride or other ionic species.
- Compatible with hydrocarbons such as natural gas (even with CO2 and H2S present), propylene, ethylene, polypropylene, methanol and ethanol mixtures.
- Not compatible with organic solvents including toluene, acetone, chloroform, benzene, methylene chloride or any strong oxidizers such as gaseous chlorine.



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