OXY5500 precision oxygen analyzer

Reliable O_2 measurements for gas applications

Endress+Hauser
People for Process Automation

Superior technology, best overall results

No competing system measures oxygen in natural gas better and faster than the OXY5500 precision oxygen analyzer

Endress+Hauser OXY5500 analyzers, powered by SpectraSensors quenched fluorescence (QF) technology, are selective and specific for oxygen measurement in natural gas and hydrocarbon streams. They are unaffected by the presence of H_2S and other compounds which cause interferences and measurement biases in electrochemical sensors. Quenching of the fluorescent light emitted from the sensor occurs instantaneously, providing a fast response to changes in oxygen concentration. As such, OXY5500 analyzers are demonstrably faster, more accurate, more stable, and require less maintenance than alternative oxygen measurement systems for natural gas.

Additional features:

- Easy-to-navigate display and menu
- Measurement ranges from 0-10 ppmv to 0-20%
- Low power consumption; 100-240 VAC or 9-36 VDC
- Data logging for 30 days
- USB 2.0 port for Windows® service software
- 2 alarm relays
- 2 analog (4-20mA) outputs
- Modbus over RS-232, RS-485 and ethernet 10/100

OXY5500 precision O_2 analyzer

OXY5500 with sample system

OXY5500 with heated enclosure

Competitive comparison table

	Competition	Endress+Hauser
Measurement principle	Electrochemical sensor with anode and cathode	Optical sensor (quenched fluorescence)
Recovery when exposed to air	Hours	Minutes
H_2S sensitivity	Sensors damaged	Not affected by H_2S percent levels
H_2S scrubbers	Required when H_2S present Expensive to maintain	Not required
Maintenance	Sensors need replacement and calibration every few weeks	Lasts for years
Calibration stability	Drift caused by H_2S and contaminants on the membrane	Optical method is very stable
Speed of response	Large changes in O_2 can take hours to recover	Optical method has fast response

Typical applications

Application	Description	Value of OXY5500
Natural gas production	The OXY5500 measures O_2 in natural gas at the wellhead and during compression, gathering and storage. Oxygen and other contaminants promote corrosion, interfere with downstream processes, and may indicate air leaks.	▪ The OXY5500's rapid analysis aids in the identification of leaks ▪ The OXY5500 is immune to H_2S often found in upstream raw gas ▪ Reliable measurements are critical in remote, hard-to-reach sites
Natural gas processing	The OXY5500 measures O_2 in sales gas after separation and removal of contaminants from natural gas. Oxygen levels must be very low for transmission and distribution pipelines to prevent corrosion and meet custody transfer tariff specifications.	▪ The rapid analysis of the OXY5500 prevents off-spec gas from contaminating downstream pipelines ▪ The reliability of the OXY5500 optical method is important in custody transfer sites to prevent measurement disputes ▪ Low maintenance is critical for interstate and long-distance remote pipelines with limited onsite personnel
Vapor recovery units (VRUs)	There is a growing number of VRU systems due to their environmental and economic advantages. Oxygen measurement downstream of VRUs is necessary to identify air leaks into the pipeline.	▪ The OXY5500 rapid analysis aids in the identification of leaks from VRUs ▪ Speed of response is critical to prevent contamination in downstream pipelines ▪ The OXY5500 is immune to H_2S and heavy hydrocarbons found in VRU head space.

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