

# OXY5500 Datasheet

## Precision oxygen analyzer

### Key Features

- Easy-to-navigate display and menu
- Low power consumption
- Data logging for 30 days
- Small optical sensor, no membrane or consumable chemicals
- Excellent long term stability
- Not affected by H<sub>2</sub>S or other sulfur species
- No H<sub>2</sub>S scrubber
- Fast and continuous
- No moving parts, simple operation
- Not affected by electrical interferences and magnetic fields
- NEMA 4X and IP65
- Hazardous Area Certifications  
CSA Class I, Div 2  
IECEX Zone 2  
ATEX Zone 2



SpectraSensors OXY5500 Oxygen Analyzer is a compact, stand-alone one-channel meter with an LCD display and built-in data logger. The sensor probe is inserted into the process stream and is connected to the controller by an optical fiber.

Full Sample Conditioning Systems are available with the OXY5500, as well as software for PC interface.

**Low maintenance** The analyzer uses an optical method that detects oxygen using a probe that is inserted into the gas stream. The probe can be easily cleaned and has a lifetime measured in years.

Calibration of the analyzer is a simple procedure that can be performed in minutes using a binary standard with oxygen in nitrogen.

**Accurate and reliable** OXY5500 technology is ideally suited for measuring in Natural Gas and Gas Processing applications.

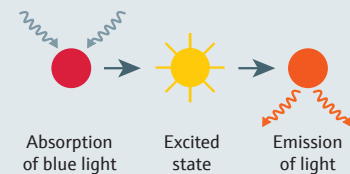
The sensor is not affected by even high levels of H<sub>2</sub>S or other sulfur species. There is no cross sensitivity to contaminants or other gases in natural gas.

The electronics are certified for hazardous area use. Because there is no measurement drift, the accuracy and reliability of the measurements are superior to electrochemical analyzers.

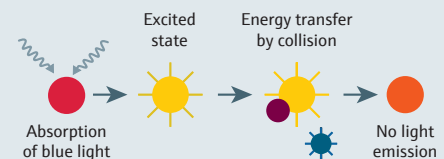


### The Quench Fluorescence Method

1. Blue LED light is transmitted to the sensor tip causing it to emit "fluorescence".



2. When the sensor tip comes into contact with oxygen, the O<sub>2</sub> molecules absorb energy, preventing the emission.



The amount of oxygen is inversely proportional to the intensity and duration of the luminescence.

## Specifications

### Application Data

Target Components	O <sub>2</sub>		
Principle of Measurement	Fluorescence Quenching		
	OP-9 <sup>1</sup>	OP-6 <sup>1</sup>	OP-3 <sup>1</sup>
Typical Measurement Ranges	0-200 ppmv default 0-10 to 0-1,000 ppmv <sup>2</sup> user setting	0-5% 0-1 to 0-5% user setting	0-50% 0-10 to 0-100% user setting
Lower Limit of Detection	0.5 ppmv	20 ppmv	300 ppmv
Accuracy at 20-25°C	±2 ppmv or ±5% of Reading	±3% of Reading	±2% of Reading
Repeatability	±1% of reading		
Measurement Update Time	Programmable Sampling Rate (default 30 seconds)		
Temperature Range	-20 to 50°C (-4° to 122°F)		
Sample Inlet Pressure	140-275 kPag (20-40 psig) to sample panel regulator		
Sample Pressure Range	800-1200 mbara		
Maximum Probe Pressure	1400 kPag (200 psig)		
Sample Flow Rate	Typical 1.0 slpm (2.1 scfh)		
Recommended Calibration	Two-point calibration in oxygen-free environment (nitrogen) and a second span point (Cylinder Gas). Validate with O <sub>2</sub> in N <sub>2</sub> reference (Cylinder Gas).		



### Electrical & Communications

Input Power (Voltage and Max Power)	85-260 VAC 50/60 Hz or 18-30 VDC, 5 Watts @ 24VDC, 14 Watts @ 120VAC, 22 Watts @ 240VAC
Communication	Analog: Qty 2 4-20 mA outputs and Qty 1 4-20 mA input (sample pressure) Fieldbus: RS-232C, RS-485, & Ethernet 10/100 with Modbus Output Relays: Qty 2, 250 mA max load (Concentration and Fault Alarms) USB 2.0 Works With Service Software Only 4 GB Internal Memory with Internal Data Logging
LCD Display	Concentration, Temperature, Sample Rate, Data Logging, Diagnostics, Plus Full Menu for Setup, Calibration, etc.
Service Software	Windows Software. Connect via USB port. Download data logs, trend and monitor, calibrate and troubleshoot.

### Physical

Enclosure Type	NEMA Type 4X and IP65 Rated, 304 and 316 (optional) Stainless Steel
Analyzer Dimensions	280 x 230 x 114 mm (11 x 9 x 4.5 inches) H x W x D (not including Sample Conditioning System)
Controller to Probe Cable Length	0.7m standard (2.5m and 5.0m - optional)
Weight	2.2 kg (4.9 lbs) (not including Sample Conditioning System)
Sample Probe Construction	316 Stainless Steel

### Area Classification - Certifications

CSA: Class I, Division 2, Group ABCD, T4  
IECEX: Ex nA IIC T3 Gc  
ATEX:  II 3 G Ex nA IIC T3 Gc  


1. OP-9, -6 and -3 are optional sensor choices. Analyzer comes with one.
2. Accuracy specification applies to concentrations up to 200 ppmv.

4333 W. Sam Houston Pkwy N.  
Suite 100  
Houston, TX 77043

Tel +1 713 300 2700  
+1 800 619 2861  
Fax +1 713 856 6623

sales@spectrasensors.com  
service@spectrasensors.com  
www.spectrasensors.com

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