



ALPHA OMEGA  
INSTRUMENTS

# Series 2500 Percent Oxygen Transmitter



## **FEATURES**



Wide Number of Ranges



Exceptional Speed of Response



Rugged and Versatile Construction



Economically Priced



Patented Extended Life Sensor



Acid Gas Resistant Sensor

## **BENEFITS**

Measure from <math><0.1\%</math> to 100% Oxygen

Responds Instantaneously to Changes in Oxygen

NEMA 4 Housing Withstands Harsh Environments

Save Thousands of Dollars vs Other Methods

Eliminates Frequent Sensor Replacement

Eliminates Samples Conditioning for Many Applications



## General System Description

The Series 2500 Percent Oxygen Transmitter is a true two wire transmitter offering an economical way to make accurate and dependable percent oxygen measurements in a variety of gases. The Series 2500 Percent Oxygen Transmitter is both dustproof and waterproof, and is rated for NEMA 4 (IP66) service. The instrument is loop powered from 14-32 VDC, and provides a 4-20 mA DC output that can be transmitted to a datalogger, recorder, PLC, DCS, etc. Internal shielding of the electronics offers excellent protection from EMI/RFI noise. Accessories for the Series 2500 Percent Oxygen Transmitter include a pressure regulator and in-line sample filter. Additional sample conditioning is available.



## Patented Oxygen Sensor with EES

The Series 2500 Percent Oxygen Transmitter features a patented, extended life oxygen sensor with EES (Enhanced Electrolyte System). This sensor provides exceptional performance, accuracy, and stability. For applications where carbon dioxide is present in the sample gas, the EES retards passivation of the sensor anode by allowing the products of oxidation to dissolve in the electrolyte. In effect the sensor is renewed continuously, resulting in an **increase in sensor life**, even if exposed to limited amounts of carbon dioxide. The output from the sensor is **temperature corrected** to provide optimum performance over a wide range of operating conditions.

## SPECIFICATIONS

### Performance

**Measurement Ranges (percent oxygen)**  
0-2, 0-5, 0-10, 0-25, 0-50 and 0-100.

**Accuracy**<sup>1</sup> ±1% of full scale.

**Linearity** ±1% of full scale.

**Response Time** 90% of full scale in less than 20 seconds typical.

**Sensor Type** Patented Electrochemical Sensor.

**Temperature Compensation** Standard.

**Operating Temp. Range** 32°-122°F (0° to 50°C).

**Sample Gas Pressure Limits** 0.1 to 1.0 psig (1.4 to 14.2 kg/cm<sup>2</sup>).

**Sample Flow Rate** 1.0 to 2.0 SCFH (0.5 to 1.0 liters/min.)

**Electrical Input/Output** 14-32 VDC @ 4-20 mA DC.

**Loop Resistance**  $R_L$  (K ohms max) =  $\frac{\text{Input VDC} - 12}{20}$

**Warranty** 2 years electronics/1 year sensor.

### CONSTRUCTION

**Enclosure** Polycarbonate-rated NEMA 4 (IP66).

**Gas Connections** ¼" Compression fittings or Quick Connect fittings for ¼" flex tubing

**Dimensions** 5.5 in. (139.9 mm) length.  
8.8 in. (223.5 mm) width.  
3.4 in. (86.4 mm) deep.

<sup>1</sup> Stated at constant temperature and constant pressure.

Alpha Omega Instruments reserves the right to change specifications at any time.

### APPLICATIONS

- ◆ Heat Treating
- ◆ Air Separation
- ◆ Glove Boxes
- ◆ Inert Gas Generators
- ◆ Chemical Manufacturing
- ◆ Process Dryers
- ◆ Vessel Blanketing
- ◆ Petrochemical Processing
- ◆ Pharmaceutical Manufacturing
- ◆ Anaerobic Chambers
- ◆ Food Processing
- ◆ Beverage Processing



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