



Product shown with optional flow meter, needle valve, and coalescing filter

FEATURES	BENEFITS
Wide Number of Ranges	Measure from <0.1% to 100% Oxygen
Exceptional Speed of Response	Responds Instantaneously to Changes in Oxygen
Rugged and Versatile Construction	NEMA 4 Housing Withstands Harsh Environments
Economically Priced	Save Thousands of Dollars vs Other Methods
Extended Life Sensor	Eliminates Frequent Sensor Replacement
Acid Gas Resistant Sensor	Eliminates Sample Conditioning for Many Applications
Factory Calibration	Factory calibration and certificate included at no additional charge

## Product Description

The Series 2500 Trace Oxygen Transmitter is a true loop powered (14-32 VDC) percent oxygen transmitter designed to provide accurate and dependable percent oxygen measurements in a variety of background gases. Measurement ranges available are from 0-2% to 0-100%. The Series 2500 enclosure is made from durable polycarbonate, and is rated for NEMA 4 (IP 66) service (may change with the addition of certain optional equipment). A 4-20 mA DC output is provided that can be used with a data logger, recorder, PLC, DCS, etc. Options include pressure regulators, flow meters, sample filters, sample pumps, and explosion proof (NEMA 7) housings.

The Series 2510 Percent Oxygen Transmitter is the AC powered (115 or 230 VAC, 50-60 Hz) or 24VDC counterpart to the Series 2500 and is recommended when AC power is available or preferred.

The Series 2500 and Series 2510 Percent Oxygen Transmitters feature an 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 100% carbon dioxide. In addition, the enhanced mechanical design of the sensor ensures longer life, and virtually eliminates leakage of electrolyte, a nagging (and expensive) problem associated with sensors that require periodic electrolyte maintenance.

### Specifications

#### PERFORMANCE

Measurement Ranges in Percent: 0-2/100  
0-5/100  
0-10/100  
0-25/100  
0-100/10  
Switchable Range  
(Calibrated on the first range)

Accuracy<sup>1</sup>: ±1% of full scale (± 5% of full scale on ranges ≤ 0-5%)

Linearity: ± 1% of full scale

Response Time: 90% of full scale in less than 20 seconds (typical).

Sensor Type: Long-life Electrochemical Sensor.

Temperature Compensation: Standard.

Operating Temperature Range: 40° to 104°F (5° to 40°C)

Warranty: 2 years electronics/  
1 year sensor

#### ELECTRICAL

Series 2500 Loop Powered Trace Oxygen Transmitter: Input power 14-32 VDC

Series 2510 Trace Oxygen Transmitter: Input power 115 or 230 VAC, 50-60 Hz, or 24 VDC

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

Analog Output: 4-20mA DC with a loop resistance of 600 ohms@ 24VDC (consult factory for other resistance values)

#### SAMPLE GAS CHARACTERISTICS

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

Sample Gas Temperature: 40° to 104°F (5° to 40°C)

Sample Gas Pressure Limits: 0.1 to 1.5 psig (0.007 to 0.1 kg/cm<sup>2</sup>)

#### CONSTRUCTION

Enclosure: Polycarbonate, rated NEMA 4X (IP66) without optional equipment. NEMA 7 (explosion proof) optional.

Dimensions: 6.5 in. (165.1 mm) height  
7.0 in. (177.8 mm) width  
3.9 in. (99.06 mm) depth

Note: All dimensions are without optional equipment

Gas Connections: Quick connect 1/4" OD for plastic tubing or stainless steel compression fittings for installations with metal sample lines



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