

**PRODUCT DATASHEET**

# SERIES 3520™

Trace Oxygen Analyzer



Product shown with optional flow meter and pressure regulator



FEATURES	BENEFITS
State-of-the-Art Sensor Technology	High precision measurements
Light Weight/Compact Design	Easy to carry and transport
Rapid Speed of Response	Senses oxygen changes in seconds
Built-in NICAD Batteries	Provides hours of continuous operation
Uses Standard NICAD's	Replacement batteries found world-wide
Minimum Maintenance	Low cost of ownership
Factory Calibration	Factory calibration and certificate included at no additional charge

## Product Description

The Series 3520™ Trace Oxygen Analyzer is a portable, battery operated trace oxygen analyzer designed for industrial and commercial applications where accurate and reliable spot trace oxygen measurements are needed. The Series 3520 Portable Oxygen Analyzer features our long life ambient temperature electrochemical sensor. The enclosure is made from durable polycarbonate and is rated NEMA 1 for general purpose service. The instrument is powered from rechargeable NICAD batteries that are mounted internal to the analyzer. Recharging of the batteries is accomplished using a built-in battery charger with a universal AC adapter. Single measurement ranges are available from 0-10 PPM to 0-20,000 PPM with values displayed on a front panel liquid crystal display (LCD). Options include pressure regulators, flow meters, in-line filters, sample pumps, and block & bleed by-pass sampling systems.

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### High Performance Trace Oxygen Sensor

The Series 3520 Trace Oxygen Analyzer features our long-life ambient temperature electrochemical sensor that has a functional life of up to three times that of most “fuel cell” type sensors. The enhanced mechanical design of the sensor ensures longer life,

and virtually eliminates leakage of caustic electrolyte, a nagging (and expensive) problem associated with sensors that require periodic electrolyte maintenance. And, because the sensor is sealed, it is not position sensitive. In addition, unlike some electrochemical sensors, the readings from the Series 3520 do not require manual adjustment based on changes in the molecular weights of the sample gas i.e. helium, hydrogen, etc. a major advantage for continuous measuring applications. The output from the sensor is both linear and temperature compensated to provide optimum performance.

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### Now Featured a CO<sub>2</sub> Resistant Sensor

A nemesis for many conventional “fuel cell” type trace oxygen sensors are their inability to measure oxygen in gases containing carbon dioxide. Carbon dioxide reacts with potassium hydroxide electrolyte to form carbonic acid and in short time destroys the sensor. Not anymore. We offer an optional CO<sub>2</sub> tolerant trace oxygen sensor with proprietary electrolyte. The CO<sub>2</sub> tolerant sensor is capable of providing accurate oxygen readings in gases containing up to 100% CO<sub>2</sub> without shortening the life of the sensor.

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## SPECIFICATIONS

### Performance

**Measurement Ranges (parts per million):**

0-10, 0-50, 0-100, 0-200, 0-500, 0-1,000, 0-5,000, 0-10,000, and 0-20,000

**Accuracy<sup>1</sup>:**

±1% of full scale

**Linearity:**

±1% of full scale

**Response Time:**

90% of full scale response in <10 seconds (typical). The response time for ranges of 0-50 PPM or less depend to a great extent on the design of the sample delivery system including the materials used.

<b>Sensor Type:</b>	Long-life Ambient Temperature Electro-chemical Sensor (Optional CO <sub>2</sub> Resistant Sensor Available)
<b>Temperature Compensation:</b>	Standard
<b>Operating Temperature:</b>	40° to 104° F (5° to 40°C)
<b>Warranty:</b>	2 years electronics/1 year sensor

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## Electrical

<b>Display:</b>	3-1/2 digit liquid crystal display, (4-1/2 digit for the 0-5,000, 0-10,000, and 0-20,000 ppm range instruments)
<b>Series 3510 Trace Oxygen Transmitter:</b>	Input power 115 or 230 VAC, 50-60 Hz, or 24 VDC
<b>Input Power:</b>	Powered from eight AA Rechargeable NICAD batteries with built-in universal AC battery charger
<b>Analog Output:</b>	No analog output

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## Sample Gas Characteristics

<b>Sample Flow Rate:</b>	1.0 to 2.0 SCFH (0.5 to 1.0 liter/min)
<b>Sample Gas Temperature:</b>	40° to 104°F (5° to 40°C)
<b>Sample Gas Pressure Limits:</b>	0.1 to 1.5 psig (0.007 to 0.1 kg/cm <sup>2</sup> )
<b>Entrained Solids:</b>	<3 mg/ft <sup>3</sup> : no in-line filter required >3 mg/ft <sup>3</sup> : in-line filter is required
<b>Hydrocarbon Mist:</b>	<0.7 mg/ft <sup>3</sup> : no in-line filter required >0.7 mg/ft <sup>3</sup> : in-line filter is required

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## Construction

<b>Electronics</b>	Polycarbonate rated NEMA 1
<b>Dimensions*:</b>	6.5 inches (165.1 mm) height 6.5 inches (165.1 mm) width 7.8 inches (196.9 mm) height
<b>Gas Connections:</b>	1/4" stainless steel compression fittings

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

\* Note: All dimensions are without optional equipment

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