![Process Insights logo] **Process Insights™**
Premium Insights Into Process

PRODUCT DATASHEET

SERIES 2000™

Percent Oxygen Analyzer

Product shown with optional flow meter

FEATURES	BENEFITS
Extended Life Oxygen Sensor with EES	Ensures trouble-free and cost-effective operation with a useful life of up to four years
Acid Gas Resistant Sensor	High tolerance for gases containing up to 100% carbon dioxide
Economically Priced	Save thousands of dollars versus other manufacturers
Numerous Mechanical	NEMA 1 enclosure available in a benchtop, wall mount or panel mount configurations
Single and Three Range Options	Measure tenths of a percent to 100%
Visual and Audible Alarms	Included along with two analog outputs. Ensures the highest level of protection and reliability
Factory Calibration	Factory calibration and certificate included at no additional charge
Optional Open Diffuser Sensor	No dependence on a sample pump or aspirator

Product Description

The Series 2000™ Percent Oxygen Analyzer is a microprocessor-controlled instrument that can be supplied with oxygen measuring ranges from 0-1% to 0-100%. Single and three range instruments are available. Auto-ranging is a standard feature on all three range analyzers. The Series 2000 Percent Oxygen Analyzer is powered from universal 115-230 VAC, 50-60Hz, or 18- 32 VDC. Oxygen values are displayed continuously on an easy-to read, 0.4" (10.2 mm) high, 4-1/2 digit liquid crystal display (LCD). The instrument can be purchased in a variety of mechanical configurations including a benchtop portable, wall mount or panel mount version. The electronics enclosure is made from durable polycarbonate and, together with the gasketed seals, is rated NEMA 1.

The Series 2000 Percent Oxygen Analyzer features 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.

The eloquence of the Series 2000 Percent Oxygen Analyzer is its ease of use. The front panel contains five switches that provide access to the instrument's settings. Each analyzer is equipped with three oxygen alarm relays and one status alarm relay as standard equipment. All four relays are Form C (SPDT) types rated at 10 amps at 115/230 VAC and 30 VDC. Each relay is user configurable for fail-safe operation. In addition to the alarm relays, the analyzer is equipped with a built-in audible alarm, as well as three front panel LEDs for visual indication of an alarm condition. The Series 2000 Percent Oxygen Analyzer comes equipped with two analog outputs, 4-20 mADC and 0-2 VDC, for use with recorders, data loggers, etc. For enhanced communications, the Series 2000 Percent Oxygen Analyzer can be configured with optional RS-232C or RS-485 serial communications. The RS-485 format is capable of sending digital signals over greater distances, and controlling each monitor using the same communication channel.

Depending on the application, the Series 2000 can be equipped with a number of options including; sample filters, sample pumps, pressure regulators, serial communications, flow meters, etc.

Also, an optional open diffuser sensor configuration is available for applications not requiring a sampling system.

SPECIFICATIONS

Performance

Measurement Ranges (Percent Oxygen):	Single Range	Three Range
	0-100	0-10/25/100
	0-25	0-5/10/25
	0-10	0-1/10/25
	0-5	

Accuracy[1]:	±1% of full scale (± 5% of full scale on ranges ≤ 0-5%)
Linearity:	±1% of full scale
Response Time:	90% of full scale response in less than 20 seconds (typical)
Sensor Type:	Ambient temperature electrochemical sensor with EES
Temperature Compensation:	Standard
Pressure Compensation:	Standard
Operating Temperature:	40° to 104° F (5° to 40°C)
Warranty:	2 years electronics/1 year sensor

Electrical

Display:	0.4" (10.2 mm) high, 4-1/2digit LCD. Resolution 0.1%.
Input Power:	Universal 115-230VAC, 50-60Hz or 18-32 VDC
Standard Outputs:	4-20 mADC and 0-2 VDC standard as is a TTL output for range identification. Optional RS-232C or RS-485 serial communication available.
Oxygen Alarm Relays:	Three (3) SPDT Form C contacts rated 10A @ 30 VDC/115/230 VAC. User selectable for fail-safe or non fail-safe.
Instrument Status Alarm:	Front panel 1 SPDT Form C rated identical to above
Audible Alarm:	Internal buzzer with audible cancel

Sample Gas Characteristics

Flow Rate:	1.0 to 2.0 SCFH (0.5 to 1.0 liter/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^2).

Entrained Solids:	<3 mg/ft³: no in-line filter required >3 mg/ft³: in-line filter is required
Hydrocarbon Mist:	<0.7 mg/ft³: no in-line filter required >0.7 mg/ft³: in-line filter is required

Construction[2]

Electronics Control Unit:	Polycarbonate with a hinged clear front cover, rated NEMA 1
Control Unit Dimension*:	9.45 in. (240.5 mm) length 6.50 in. (165.1 mm) width 6.20 in. (157.5 mm) depth
Gas Connections:	1/4" stainless steel compress fitting or 1/4" OD flex tubing
Sensor Mounting:	Local or optional remote mounting
Optional Remote:	Light gray polycarbonate rated NEMA Sensor Enclosure: 1 (IP 30)
Remote Sensor Enclosure Dimensions*:	4.72 in.(119.9 mm) length 3.14 in.(79.8 mm) width 3.34 in. (84.8 mm) height
Weight:	11lbs (4.98 kg) (Bench-top Configuration.)

[1] Stated at constant temperature and constant pressure.

[2] Other mechanical configurations available-consult factory.

* Note: All dimensions are without optional equipment

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