

PRODUCT DATASHEET

Z_RO₂ 2000

Fast Response Oxygen Analyzer



FEATURES	BENEFITS
Advanced Solid State Sensor	Provides high precision oxygen measurements
Measures PPB to 100%	One instrument does it all
Response in Milliseconds	Provides exceptional tracking of process conditions
Non-depleting Sensor	Designed to provide years of operation
User Scalable Analog Outputs	Better defines the concentration range of interest
Dual User Adjustable Alarms	Set critical process limits
Microprocessor Controller	Helps to ensure dependable and accurate reading
Built-in Sample By-Pass gas	Helps to promote rapid transport of the sample gas
Factory Calibration	Factory calibration and certificate included at no additional charge

Product Description

The Series Z_rO₂₀₀₀ Fast Response Oxygen Analyzer is a microprocessor based instrument designed to measure gas phase oxygen concentrations over a range of 0-100%. The non-depleting sensor used in the Series Z_rO₂₀₀₀ Fast Response Oxygen Analyzer is a zirconium type that exhibits fast response times. The analyzer is housed in a NEMA 1 enclosure rated for general purpose use. The front panel contains five switches that provide access to the analyzer's settings. Oxygen values are displayed on a 0.7" (17.8 mm) high 6 digit liquid crystal display (LCD). The instrument is equipped with two oxygen alarm relays. Both relays are Form C (SPDT) types rated at 10 amps at 115/230 VAC/ 30 VDC and are user configurable for fail-safe operation. In addition to the alarm relays, the Series Z_rO₂₀₀₀ Fast Response Oxygen Analyzer has a built-in audible alarm and red LEDs for visual indication of an oxygen alarm condition. There are also two green LEDs to indicate whether the LCD is displaying parts per million (PPM) or percent (%).

The audible alarm may be manually canceled at anytime. If the audible alarm is canceled and the alarm event continues, indications of this condition will still be available through the front panel LEDs and relay contact(s). Two flow meters are standard equipment for the Series Z_rO₂₀₀₀ Fast Response Oxygen Analyzer, one for the "Sample Flow" and another for the "Bypass Flow".

The Series Z_rO₂₀₀₀ Fast Response Oxygen Analyzer comes equipped with two standard analog outputs. These can be configured for 0-20 mADC or 4-20 mADC separately. Both are scalable by the user. The analyzer accepts a universal input of 90VAC to 264VAC @ 50-60Hz. The Series Z_rO₂₀₀₀ Fast Response Oxygen Analyzer incorporates standard features that make it suitable for many applications. However, for certain requirements, the user may desire to augment the capabilities of the instrument by equipping it with a sample pump or pressure regulator.

SPECIFICATIONS

Performance

Measurement Ranges:	0-100%
Accuracy[†]:	Percent: ±2% of reading or 0.05% absolute whichever is greater. Trace: ±2% of reading or ±0.5 ppm absolute whichever is greater.
Response Time:	< 5 seconds at 0.15 liters per minute (LPM) over 1 decade. The response time for measurements of less than 50 PPM or less depend to a great extent on the design of the sample delivery system including the materials used.
Sensor Type:	Zirconium Oxide
Operating Temperature of Analyzer:	50° to 104°F (10° to 40°C)
Warranty:	2 years electronics/1 year sensor

Electrical

Display:	0.7" (17.8 mm) high 6 digit liquid crystal display
Resolution:	0.01 on highest reading & 0.001 ppm on lowest reading

Input Power:	Universal 90-264 VAC, 50 or 60 Hz
Standard Output:	(2) Selectable 0-20 mA DC or 4-20 mA DC, both scalable by user
Oxygen Alarm:	Two (2) SPDT Form C contacts rated
Relays:	10 A @ 30 V DC / 115/230 VAC. Alarms may be cleared manually or automatically, by user selection.
Audible Alarm:	Internal audible alarm
Audible Alarm:	Cancel Front panel switch

Sample Gas Characteristics

Maximum Sample Temperature:	122°F (50°C)
Maximum Sample Pressure:	0.1 to 0.5 (psig) / (0.007 to 0.035 kg/cm ₂)
Sample Gas Moisture Limits:	85% RH

Construction

Enclosure:	Aluminum, rated NEMA 1
Enclosure Dimensions*:	13 inches (330 mm) - length 10.71 inches (272 mm) - width 6.3 inches (160 mm) - height
Gas Connections:	1/4" stainless steel compression fittings
Weight (Bench top Configuration):	9.4 pounds (4.26 kg.) / 10.4 pounds (4.72 kg.) with optional sample pump

[†] NOTE: The sample gas used with the ZrO2000 must not contain any hydrocarbon vapors, hydrogen, carbon monoxide, or other reducing gases. Sample tubing should be cleaned for oxygen service. Please consult the factory for additional information.

* Note: All dimensions are without optional equipment

Alpha Omega Instruments reserves the right to change or modify its product specifications without notice.

Applications

Modified Atmosphere Packages (MAP)	Glove Boxes	Biological Reactors	Critical Welding
Pharmaceutical Processing	Heat Treating	Leak Detection	Air Separation
Vessel Blanketing	Semiconductor Manufacturing		

Optional Equipment

Pressure Regulators	Sample Pumps
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