

PRODUCT DATA SHEET

CG1000 Oxygen Analyzer

Quickly responds to net oxygen changes from 0.1 ppm to 100% O₂

The CG1000 is a portable oxygen (O₂) analyzer for industrial and laboratory applications. It has a wide operating range (0.1 ppm to 100% O₂, auto-ranging), a fast response to O₂ changes, and advanced electronic capabilities for easy system integration.

Lightweight

A compact case with handle makes it easy to move the analyzer to different sampling locations.

User-friendly

Menu-driven software includes helpful system status messages, allowing you to begin using the CG1000 quickly. Advanced software diagnostics and online help simplify operations.

Reliable monitoring

An electronic flow sensor eliminates the high maintenance and potential leaks associated with mechanical flow meters, allowing you to reliably monitor the flow of gases into the analyzer, and can even trigger a flow alarm if flow to the analyzer stops. Also, an optional built-in pump allows samples to be pulled from processes under vacuum and compensates for pressure when measuring O₂ under vacuum.



KEY BENEFITS

- Fast response of <5 sec over 1 decade
- Fails safe to air instead of reading zero O₂
- Reliably monitors sample flow
- Calibrated on % gases to read low ppm, reducing calibration expenses
- Easily integrated into control schemes via digital communications & analog outputs
- Available in specialized models for RTP



APPLICATIONS

- Rapid thermal processing (RTP)
- Air separation
- Inert gas purity (N₂, Ar, CO₂, He, etc.)
- Blanket/purge gas analysis
- Glove box applications
- Cryogenic gas generation
- Atmospheric oven/furnace control
- UV curing ovens



KEY MARKETS

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|------------------------|-----------------------------|
| • Semiconductor | • Specialty welding |
| • Pharmaceutical | • Fiber optics |
| • Polymer and chemical | • Graphite and carbon fiber |

PERFORMANCE SPECIFICATIONS

Operating range	0.1 ppm O ₂ to 100% O ₂
Accuracy	±2% of reading or 0.05% O ₂ absolute (0.5 ppm O ₂ absolute for ppm range), whichever is greater
Response time	Less than 5 seconds at 150 sccm over one decade
Repeatability	±0.5% of reading or 0.1% O ₂ absolute (0.1 ppm O ₂ absolute for ppm range), whichever is greater
Environment	Ambient temperature: 5 to 40°C (41 to 104°F) Relative humidity: 10 to 80%, non-condensing
Max. inlet temperature	71°C (160°F)
Sample flow	50 to 200 sccm according to user application requirements. The flow rate is factory-calibrated at 150 sccm
Power requirements	115 VAC, 60 Hz, 150 VA 230 VAC, 50 Hz, 150 VA
Calibration gas requirements	Use calibration gases @ 50 to 200 sccm (150 sccm is recommended) Zero Gas: From 0.1 ppm to 10% O ₂ , balance N ₂ Span Gas: At least one decade above zero gas (10 times greater) recommended
Display	Four-line x 20-character vacuum fluorescent. Displays combinations of oxygen (0.1 ppm O ₂ to 100%, auto-ranging), time and date, cell temperature, user programmable text, thermocouple mV, cell mV, flow, and pressure. Password protection and context-sensitive help are also provided
Analog output	Two isolated linear current outputs. Select O ₂ , cell temperature, thermocouple mV or cell mV. Each output can be 4-20 mA, 0-20 mA, 20-4 mA or 20-0 mA, and is fully scalable. Hold or track during calibration and select degree of damping. Maximum load 1200 ohms
Alarms	Two independent alarms, each high or low selectable. Alarms can be assigned as O ₂ , flow, calibrate or verify. Set relays to energize or de-energize on alarm
Contact rating	30VA max., 30V max. non-inductive load
Diagnostics	Watchdog timer and service alarms. System test for A/D, RAM, EEPROM and keypad. Display line 4 reserved for full-text error and diagnostic messages. Twenty-entry exception log for automatically detected system events
Communication	RS485, 2-way addressable
Calibration	Store last calibration and verification data. Selectable calibration gas run time and process recovery time. O ₂ cell lifetime extender. Calibrate or verify calibrations
Enclosure	General purpose
Dimensions (W x H x D)	202 x 273 x 406 mm (7.9 x 10.75 x 16 in.) Note: Pop-up feet raise analyzer another 32 mm (1.25 in.)
Weight	Approx. 8.6 kg (19 lb)
Systems compliance	EMC Directive 89/336/EEC Low Voltage Directive 73/23/EEC

NOTES:

1. All static performance characteristics are with operating variables constant.
2. System accuracy referenced to 0.1 to 10% calibrated range.
3. Response is to calibration gas.

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