

CEM/O₂ Oxygen Analyzer

Extractive net oxygen analyzer for use in a wet or dry gas CEM system or instrument cabinet.

SENSOR



Principle of Operation: Zirconium oxide
Operating Range: 0.1% to 100% O₂
Accuracy: ± 0.75% of reading or 0.05% O₂, whichever is greater
Response Time: Less than 4 seconds at 2 scfh from 2% O₂ to 20% O₂

Drift: < 0.1% of cell output per month (<0.005% O₂ per month with 2% O₂ applied)
Max. Inlet Temperature: 400°F (204°C)
Sample Pressure: ± 2 psig max (0.14 kg/cm²)
Sample Flow: 2 to 20 scfh (0.94 to 9.4 L/min.)
Environment
 Ambient Temp: 0°F to 122°F (-18°C to 50°C)
 Relative Humidity: 10% to 90%, non-condensing
Enclosure: Indoor use only
Power Requirements: 115 VAC, ± 10%, 47-63 Hz; 230 VAC, ± 10%, 47-63 Hz, 1670 VA max.
Calibration Gas Requirements:
 Use calibration gases @ 2 to 20 scfh (0.94 to 9.4 L/min.)
 Zero Gas: From 0.1% to 10% O₂, balance N₂
 Span Gas: Minimum one dec ade above zero gas (10 times greater)

SERIES 2000 CONTROL UNIT



Display: Four line x 20 character vacuum fluorescent. Displays combinations of oxygen time and date, cell temperature, user programmable text, thermocouple mV or cell mV. Password protection, programmable pressure compensation and context sensitive help are also provided.

Analog Output: Two isolated linear current outputs. Select O₂, 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 oxygen alarms, each high or low selectable. One alarm can be assigned as oxygen, calibrate or verify. Set relays to energize or de-energize on alarm.

Contact Rating: 0.5A, 30V, 10VA max. noninductive load, AC or DC

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.

Communications: RS-485, 2-way addressable

Environment

Ambient Temp: 14°F to 122°F (-10°C to 50°C)
 Relative Humidity: 10% to 80%, noncondensing

Enclosure: Standard GP (general purpose) 19" rack mount. Optional GP panel or wall mount, weatherproof NEMA 4 (IP56) and NEMA 4X (IP56) enclosures available. All are UL Listed for NEC Class I, Division 2 areas.

Calibration: Store last calibration and verification data. Selectable calibration gas run time and process recovery time. Timed automatic calibration with optional Remote Calibration Unit. Oxygen cell lifetime extender. Single gas verification that analyzer is within calibration limits.

Power Requirements: Nominal 115-230 VAC ±10%, 47-63 Hz, 75 VA max.

System Compliance

EMC Directive 89/336/EEC
 Low Voltage Directive 73/23/EEC

Excess Fuel Software Option

Extends operating range of analyzer from excess oxygen only to include substoichiometric conditions (excess fuel). Allows two-point calibration in excess fuel range. Measure, display, and provide alarms and analog outputs as follows:

- Display Options: Excess fuel, combustibles, oxides/fuel, fuel/oxides, combined excess oxygen/excess fuel (combustibles)
- Display Range: 0-50% excess fuel
- Output Range: 0-1% to 0-50% excess fuel
- Alarms: Standard alarms can be used for high or low excess fuel levels

DIMENSIONS

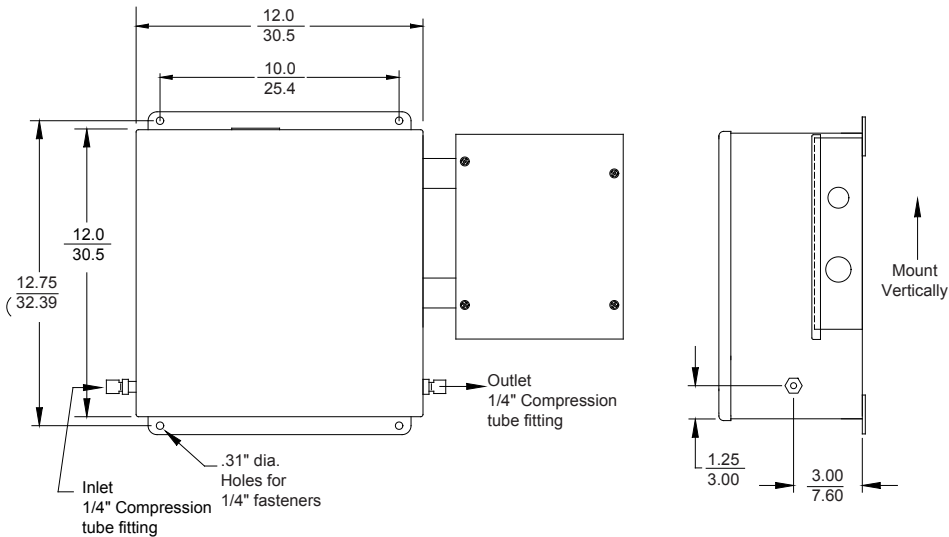
THERMOMOX[®]

SENSOR

APPROX WEIGHT: 24 lb (10.9 kg)

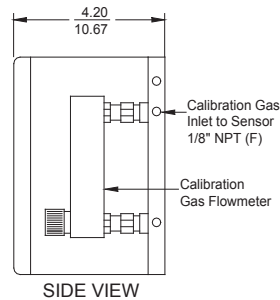
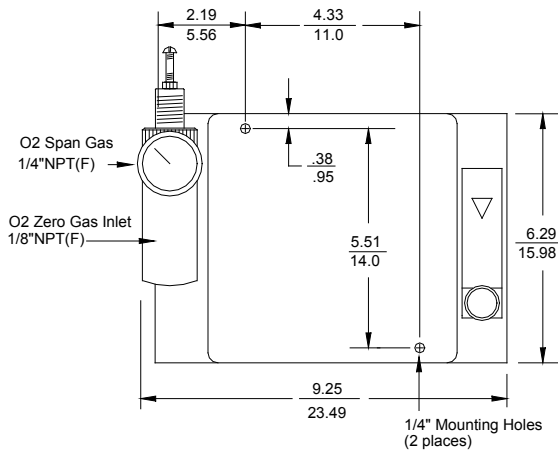
INCHES

CM



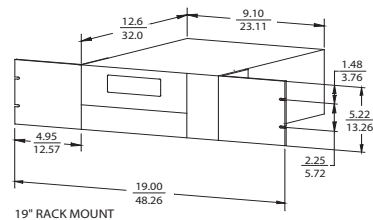
REMOTE CALIBRATION UNIT

APPROX WEIGHT: 8 lb (3.6 kg)



SERIES 2000 CONTROL UNIT

APPROX WEIGHT: 14 lb (6.35 kg)



NOTES: 1. All static performance characteristics are with operating variables constant. 2. System accuracy referenced to 0.1 to 10% calibrated range.

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