# CG1100 Oxygen Gas Analyzer

*Dycor's CG1100 enables you to detect oxygen concentrations at the ppm level.*

## PRODUCT DESCRIPTION

The CG1100 is a smart sensor capable of detecting oxygen in your sample from 0.1 ppm to 100%. This analyzer is designed specifically for use in applications where fast response over a wide range of oxygen is required. The sample can be pulled through the analyzer using an aspirator (optional) thereby eliminating the need for a sample pump. The CG1100 uses a zirconium oxide sensor that provides quick response, is non-depleting, and will not fail to zero reading, thereby protecting your process.

## KEY FEATURES

■ **Fast Response over a Wide Operating Range**

Your system will respond rapidly over an operating range of 0.1 ppm to 100% oxygen.

■ **Easy to Integrate into Your Host Controller and Data Acquisition System**

The CG1100 is equipped with an RS-232 and two RS-485 ports. It comes with configurator software for initial setup of operating parameters and accepts user-provided software for efficient integration with a host controller, or Dycor System 2000 software to record and process data.

■ **Integral Mass Flow Meter**

Reads sample and calibration gas flow.

■ **Optional System 2000 Software Available**

Provides enhanced interface and process monitoring with graphical user interface for Windows 95/NT format.

■ **Zirconium Oxide Sensor**

Your system will not fail to zero oxygen reading. It is always protected - something not possible with other sensor technologies.

■ **Compact**

8" x 8" x 8" cube houses all electronics, RS-232 port, (2) RS-485 ports , I/O port and analog output (4-to-20 mA) isolated.

■ **Optional Vacuum Generator (Aspirator)**

Uses plant air to pull the sample through the sensor eliminating the need for a sample pump.



**CG1100 Oxygen Analyzer**

## APPLICATIONS

■ Oven/Furnace Atmospheres

■ Blanket /Purge Gases

■ Welding Gases

■ Food Packaging

■ Component Aging Chambers

■ Carbon Dioxide Purity

■ Nitrogen Purity

## AMETEK
### PROCESS INSTRUMENTS

# SPECIFICATIONS

**Operating Range:**
0.1 ppm $O_2$ to 100% $O_2$

**Accuracy:**
± 2% of reading or .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.

**Maximum Inlet Temperature:**
160°F (70°C)

**Environment:**
For Indoor Use Only

Ambient Temperature:
0°C to 40°C (32°F to 104°F).

IEC Installation Category II
IEC Pollution Degree 2

Maximum Altitude:
2000 meters

Relative Humidity:
10% to 90%, non-condensing

**Sample Flow:**
50 to 200 sccm according to user application requirements. The flow rate is factory calibrated at 150 sccm. An integral mass flow meter is used to read sample and calibration gas flow.

**Maximum Inlet Pressure:**
600 to 1795 Torr. Absolute maximum allowable inlet pressure is 1795 Torr (20 PSIG).

**Minimum Inlet/Outlet Pressure:**
A higher flow rate will result in faster response and requires higher pressure differential between inlet and outlet pressure. A lower flow rate will result in a slower response and require a lower pressure differential.

**Calibration Gases:**
**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.



**CG1100 Rear View**

**Indicators:**
LEDs for status of power, communications, and fault conditions.

**Software:**
Configurator software to configure and calibrate the analyzer. Runs on a PC with Windows 95, 98 or NT with an RS-232 serial port. Communicates with a single analyzer using either an RS-232 cable or multiple units over an RS-485 network.

**Communications:**
Optically isolated RS-232 (one DB-9F connector) and RS-485 (two DB-9F connectors). RS-232 selected if RTS signal is set. Multiple units can be networked on an RS-485 network. RS-485 node address is set via externally accessible selector switch. Baud rate is software selectable to 9600 or 19200 baud.

**I/O:**
DB-15F connector. Software configurable alarm for oxygen. Two additional outputs for System Fault and Watchdog alarms. Optically isolated analog output, 4-20 MA (optionally 0-5V, 0-10V) for oxygen.

**Power Requirements:**
24VDC ±5%, 2.5A, less than 100 mv noise or ripple. An optional external 24V power supply is available with 100-250 VAC, 47-63 Hz input (AMETEK PN: 25446JE). When using an external power supply, a power connector plug (AMETEK # 19675JE) is required.

**Enclosure:**
8"H x 8"W x 8"D. Powder coat black finish. A clearance of at least 1/4" is required on sides and bottom of unit for air circulation.

**CE Compliance:**
EN61326 EMC Directive and EN61010-1 Low Voltage Directive.

TQM
COMMITTED TO TOTAL QUALITY

nsai
I.S. EN ISO 9001