



SEC Millenium Carbon Dioxide Gas Detector

Features

- *Infrared sensing technology*
- *Virtually maintenance free*
- *Low cost of ownership, over five years operating life*
- *Immune to poisoning and etching*
- *Designed for harsh environments*
- *Explosion proof*
- *Compact & lightweight*
- *Fast response time*
- *Smart calibration*
- *Self-compensating optical bench*
- *No moving parts*
- *Heated optical chamber*
- *Low power consumption*
- *Operates in anaerobic atmospheres*
- *Fault indications for all failure states*
- *Routine calibrations are not required*
- *4 to 20 mA output*
- *Many ranges available*
- *Can be coupled with SEC 2000 transmitter for network applications*
- *RS-485 communication link available*
- *Digital Display option available*

Applications

The **SEC Millenium** detectors are designed to be used where rugged, explosion proof, ultra reliable device is required.

- Gas Storage
- Injection Oil Recovery
- Industrial Process Control
- Food Processing/Packaging
- Greenhouses
- Bottling Plants
- Water Industry
- Environmental Chambers
- Laboratories
- Breweries/Wineries
- HVAC (DCV, Energy Management)
- Engine Test Cells

Operation / Description

SEC infrared carbon dioxide detector is a single source dual wavelength instrument. The sensing and reference elements are self-compensating for optical integrity and other signal inhibitors. The industry standard 4 - 20 mA analog output provides remote alarm, fault and calibration signals.

Specifications

Detectable Gases

Carbon Dioxide (CO₂)

Operating Voltage

18-36 VDC

Power Consumption

4 Watts at 24 VDC

Analog Output

4 - 20 mA (sourced)

Range

0 - 1% Volume

0 - 2% Volume

0 - 5% Volume

Alternate ranges are available

Enclosure Construction

316 Stainless Steel

Mounting

3/4" NPT

Approval

CSA

Accuracy

+/- 3% 0 to 50% full scale

+/- 5% 51 to 100% full scale

Response Time

(with standard weather protection)

T50 < 3 sec.

T90 < 5 sec.

Temperature Rating

-40° to +70° C

-40° to +158° F

Humidity

0 - 99% (non-condensing)

Classification

Class 1, Div. 1

Groups B, C & D

EMI Protection

Complies with:

C22.2 No. 152-M1984

ISA S12.13.01-2000

Weight

Approx. 4 lbs. (1.8 Kg)

Unit Status Chart

Current Output	Status
4-20 mA	Normal measuring mode
0.0 mA	Unit Fault
0.2 mA	Reference channel fault
0.4 mA	Analytical channel fault
0.8 mA	Unit warm up
1.0 mA	Optics fault
1.2 mA	Zero drift fault
1.6 mA	Calibration fault
2.0 mA	Unit spanning
2.2 mA	Unit Zeroing
4.0 mA	Zero gas level
5.6 mA	10% of full scale
8.0 mA	25% of full scale
12 mA	50% of full scale
16 mA	75% of full scale
20 mA	100% of full scale
20.1 – 23 mA	Over range (>100%)



**SEC
Millenium
CO₂ Detector**

Sensor Electronics Corporation reserves the right to alter specifications without prior notice.

Other Products Available

Explosion Proof Gas Detectors
 Non-Explosion Proof Gas Detectors
 SEC Infrared Hydrocarbon Gas Detectors
 4-20 mA Gas Detectors
 Process Gas Analyzers
 Dual Gas Analyzers
 Data Logging/Graphics Software Packages
 Aerosol Generators
 Portable Automatic Fire Fighting Systems
 Halotron Systems
 Twin Agent Units
 Dry Chemical Mobile and Stationary Units

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