



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 3100 transmitter for network applications*
- *RS-485 communication link available*
- *Digital Display option available*

Applications

The **SEC Millenium** detectors are designed to be used where a 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

Model: Sensor Electronics Corporation
SEC MILLENIUM Infrared Carbon Dioxide Gas Detector

Range: 0-0.5% Volume 4900135000M12 (5,000 ppm)
0-1% Volume 49001300001V12 (10,000 ppm)
0-2% Volume 49001300002V12 (20,000 ppm)
0-5% Volume 49001300005V12 (50,000 ppm)
Alternate ranges are available.

Detection Method: Diffusion - Optional sample draw
(requires a minimum of 1 liter per minute flow rate.)

Output (analog):
4-20 mA (Source type),
max. 1000 Ohm load at 24 VDC supply voltage

Response Time:
T50 < 5 seconds
T90 < 10 seconds

Construction:
316 stainless steel.
Class 1, Division 1, Groups B, C and D

Accuracy:
+/- 3% 0 to 50% Full Scale
+/- 5% 51 to 100% Full Scale

Operating Temperature Rating:
-40° to +70°C at 0 to 99% RH (non-condensing)

Operating Range:
18 to 32 VDC measured at the detector head

Power Consumption:
5 Watts Max

Max Current Draw: (at 24VDC)
Average: 210 mA Peak: 400 mA

Approvals: Class 1, Division 1, Groups B,C,D

Installation Category: Cat. I, Pollution Degree 2

Weight: 5 lbs. (2.3 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% Full Scale |
| 8.0 mA | 25% Full Scale |
| 12 mA | 50% Full Scale |
| 16 mA | 75% Full Scale |
| 20 mA | 100% Full Scale |
| 20.1 – 23 mA | Over range (>100%) |

Other Products Available

Gas Detectors – Explosion proof
Gas Detectors – Non-explosion proof
Infrared Gas Detectors
Process Gas Analyzers
Dual Gas Analyzers
Portable Fire Suppression Systems:
Dry Chemical
Halotron
Twin Agent
Stationary Fire Suppression Systems

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