SENSOR ELECTRONICS

SEC Millenium

Infrared Carbon Dioxide Gas Dectector

Features

- **Reliable infrared sensing technology**
- Virtually maintenance free
- **Low cost of ownership, greater than 15 year life expectancy**
- Immune to poisoning and etching
- **Designed for harsh environments**
- Explosion proof
- **Rugged stainless steel construction**
- Fast response time
- **Smart calibration**
- Patented self-compensating optics
- **No moving parts**
- Heated optical chamber
- **Low power consumption**
- Compact and lightweight
- **Operates in anaerobic atmospheres**
- Fault indications for all failure states
- **Span calibrations are not required. Zero calibration recommended every 12 months**
- 4-20mA Output
- **Many ranges available**
- Compatible with the Universal Display Module (UDM series) or the Sec 3100 & SEC 3120 Display Modules
- **Built in calibration nipple**

Applications

The **SEC Millenium Carbon Dioxide Gas 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
- 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 CO2 Gas Detector

Part Numbers	Range	ppm
4900135000FM12	0-0.5% Volume	5,000 ppm
49001300001FV12	0-1% Volume	10,000 ppm
49001300002FV12	0-2% Volume	20,000 ppm
49001300005FV12	0-5% Volume	50,000 ppm

Please note** that this list is not all-inclusive. For more information please contact **Protek Safety and Controls Ltd.

Detection Method: Diffusion - (requires a minimum of 1 LPM 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

Accuracy: ± 3% 0 to 50% Full Scale
± 5% 51 to 100% Full Scale

Temperature Range:
Certified Temperature Range: -40°C to +70°C
Factory Function Tested: -55° to +70°C
0 to 99% RH (non-condensing)

Operating Voltage Range: 18-32Vdc

Nominal Power Consumption: 5 Watts Max

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

Approvals: Class 1, Div 1, Groups B, C, D, T5

Installation Category: Cat. I, Pollution Degree 2

Weight: 5 lbs. (2.3 kg.)

C US

Order Guide

Part Number	Description
UDM-001	Single channel display module
UDM-002	Dual channel display module

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%)

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