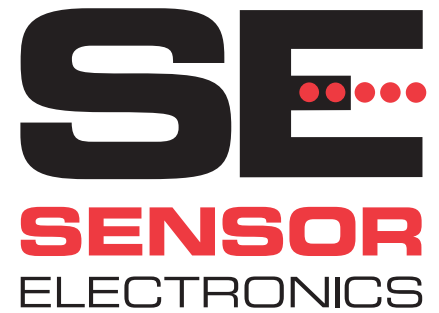




Performance Approved



SEC Millenium Hawk Infrared Hydrocarbon Gas Detector

Document #1460120 RevisionB ECO 000351

Features

- *Reliable infrared sensing technology*
- *Virtually maintenance free*
- *Low cost of ownership, greater than 10 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*
- *Operates in constant hydrocarbon background*
- *Operates in anaerobic atmospheres*
- *Fault indications for all failure states*
- *Routine calibrations are not required*
- *4 to 20 mA output*
- *0 to 100% LEL detection range*
- *Can be coupled with SEC 3100/3120 transmitter for network applications*
- *RS-485 communication link available*
- *Digital Display option available*

Applications

The **SEC Millenium Hawk** hydrocarbon detectors are designed to be used as an upgrade in the same applications where catalytic bead sensors have been applied.

- | | |
|---|-----------------------------------|
| - Refineries | - Gas turbines |
| - Drilling and production platforms | - Chemical plants |
| - Fuel loading facilities | - Compressor stations |
| - Oil well logging | - Wastewater treatment facilities |
| - LNG/LPG processing and storage facilities | - Transportation facilities |

Operation / Description

SEC Millenium Hawk is a complete self contained optical hydrocarbon gas detector. 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 Hawk Infrared Hydrocarbon Gas Detector

Available gases:	Propane	Propylene
	Methane	n-Butane
	Gasoline	Ethane
	Ethylene	Ethanol
	Pentane	Methanol
	Isobutane	Hexane
	P-Xylene	Toluene
		MEK
		Isopropyl Alcohol
		Aeromatic 150
		Cyclopentane
		Methyl Amyl Ketone

Please note that this list is not all-inclusive. The SEC MILLENIUM HAWK can be calibrated for most hydrocarbons, provided a calibration gas is available. For more information please contact Sensor Electronics Corporation.

Stainless Steel Part Numbers:

Methane PN: 49000000100-L12E	(0-100% LEL)
Methane PN: 49000000050-L12E	(0-50% LEL)
Methane PN: 49000000100-V12E	(0-100% VOL)
Propane PN: 49000100100-L12E	(0-100% LEL)
Propane PN: 49000100100-V12E	(0-100% VOL)
Propane PN: 49000100100-U12E	(0-100% UEL)
Aeromatic 150 PN: 49000200100-L12E	(0-100% LEL)
Ethane PN: 49000300100-L12E	(0-100% LEL)
Ethanol PN: 49000400100-L12E	(0-100% LEL)
Ethylene PN: 49000500100-L12E	(0-100% LEL)
Gasoline PN: 49000600100-L12E	(0-100% LEL)
Hexane PN: 49000700100-L12E	(0-100% LEL)
Isobutane PN: 49000800100-L12E	(0-100% LEL)
Isopropyl Alcohol (IPA) PN: 49000900100-L12E	(0-100% LEL)
Methanol PN: 49001000100-L12E	(0-100% LEL)
N-Butane PN: 49001100100-L12E	(0-100% LEL)
Pentane PN: 49001200100-L12E	(0-100% LEL)
Methyl Amyl Ketone PN: 49001400100-L12E	(0-100% LEL)
Cyclopentane PN: 49002500100-L12E	(0-100% LEL)
Propylene PN: 49002900100-L12E	(0-100% LEL)
Toluene PN: 49003700100-L12E	(0-100% LEL)
P-Xylene PN: 49004000100-L12E	(0-100% LEL)
Tert-Butyl Acetate PN: 49003400100-L12E	(0-100% LEL)

Contact SEC for Aluminum Construction Part Numbers

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 or
6061 Aluminum (anodized)

Accuracy:

+/- 3% LEL, 0 to 50% LEL (Lower Explosive Limit)
+/- 5% LEL, 51 to 100% LEL

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:

3.6 Watts Max

Max Current Draw:

at 24VDC Average: 85 mA Peak: 150 mA
at 18VDC Average: 135 mA Peak: 200 mA

Approvals:

C22.2/UL 60079-29-1
Performance Tested (Methane Only)
Class 1, Division 1, Groups B, C and D (C and US)

Installation Category: Cat. I, Pollution Degree 2

Weight: 5 lbs. (2.3 kg.) SS
2 lbs. (0.9 kg.) AL

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% LEL
8.0 mA	25% LEL
12 mA	50% LEL
16 mA	75% LEL
20 mA	100% LEL
20.1 – 23 mA	Over range (>100%)



Sensor Electronics Corporation

12730 Creek View Avenue, Savage, MN 55378 U.S.A. • (800) 285-3651 • (952) 938-9486 • FAX: (952) 938-9617
Email: sales@sensorelectronics.com • website: www.sensorelectronics.com

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