



SEC 3000 Gas Detector

Features

- *Compact low cost design*
- *No field gas calibration required*
- *Intrinsically safe & explosion proof*
- *Universal control board*
- *Interchangeable sensor modules for oxygen and toxic gases*
- *Temperature compensated sensor*
- *Stand alone gas detector with 4-20 mA output*
- *Corrosion resistant 316 stainless steel housing construction*
- *Long life electrochemical sensors*
- *Can be coupled with either SEC 3100 or SEC30120 Transmitter*
- *Optional heater with closed loop temperature control ensures accuracy in low temperature applications*

Industries

- *Petrochemical*
- *Medical*
- *Semi Conductor*
- *Mining*
- *Pulp and Paper*
- *Offshore*
- *Fertilizer*
- *LNG & LPG Processing*
- *Waste Water*
- *Water Treatment*
- *Chemical*
- *Automotive*
- *Pharmaceutical*
- *Refrigeration*

Operation

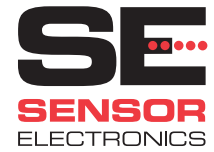
The SEC 3000 gas detector is a unique design combining intrinsically safe and explosion proof approved standards. This allows for quick and simple field installation of a calibrated sensor module into the gas detector in hazardous locations with power applied.

The SEC 3000 sensor module retains operating parameters and calibration settings. Once the sensor module is plugged into the gas detector, the sensor module automatically uploads current information to the control board in the SEC 3000. Changing to a different type of gas sensor is accomplished by only changing the sensor module board. The existing housing and wiring remains intact.

An industry standard 4-20 mA analog output provides remote alarm, fault and calibration signals. The entire unit utilizes self-diagnostics, identifies problems and continuously transmits status.

The SEC 3000 can be used in conjunction with the SEC 3100 or SEC 3120 explosion proof transmitter. The SEC 3100 and SEC 3120 have a backlit LCD display, non-intrusive local calibration, 4-20 mA output, non-intrusive local configuration, optional relays, RS485 interface and intrinsic barrier.

SEC 3000 Gas Detector



Specifications

Detection Method:
Electrochemical or Galvanic

Sampling Method:
Diffusion
Optional sample draw (requires 1 liter per minute sample flow rate)

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

Output (Digital):
Interactive Interface Available On The Calibration (White) Wire

Construction:
316 Stainless Steel Explosion Proof

Accuracy:
+/- 5%

Lower Detectable Limit:
1% of Full Scale (Under Ideal Conditions)

Recommended Minimum Alarm Setting:
10% of Full Scale

Temperature Rating:
Toxic gas sensors temperature range may vary. Please consult with Sensor Electronics.

Operating Voltage:
24 VDC --- Operating range: 8 to 32 VDC measured at the detector head

Power Consumption
1-2 Watt Max.

Max. Current Draw
50 mA (at 24 VDC)

Approvals:
CSA: Class 1, Div 1, Groups B,C,D, T6
CSA: Intrinsically Safe, Groups A,B,C,D,T4
IECEX: Exia IIC T4 Ga (Intrinsically Safe)
IECEX: Ex d IIB+H2 T4 Gb (Flameproof Version)

Installation Category:
Cat. I, Pollution Degree 2

Partial Gas List

| | | | |
|----------------|---------|-------------------|--------|
| Oxygen | (O2) | Carbon Monoxide | (CO) |
| Hydrogen | (H2) | Germane | (GeH4) |
| Ammonia | (NH3) | Silane | (SiH4) |
| Nitric Oxide | (NO) | Phosphine | (PH3) |
| Bromine | (Br2) | Sulfur Dioxide | (SO2) |
| Fluorine | (F2) | Nitrogen Dioxide | (NO2) |
| Arsine | (AsH3) | Chlorine Dioxide | (ClO2) |
| Ozone | (O3) | Hydrogen Sulfide | (H2S) |
| Chlorine | (Cl2) | Hydrogen Fluoride | (HF) |
| Phosgene | (COCl2) | Hydrogen Chloride | (HCl) |
| Diborane | (B2H6) | Hydrogen Cyanide | (HCN) |
| Formaldehyde | (HCHO) | Hydrogen Selenide | (H2Se) |
| Ethylene Oxide | (ETO) | Hydrogen Peroxide | (H2O2) |

Current Output

Status

| | | |
|------|----|-----------------------|
| 0.0 | mA | Unit Fault |
| 0.8 | mA | Unit warm up |
| 1.2 | mA | Zero drift fault |
| 1.6 | mA | Calibration fault |
| 2.0 | mA | Unit spanning |
| 2.2 | mA | Unit zeroing |
| 4-20 | mA | Normal measuring mode |
| 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 | Full scale |
| >20 | mA | Over-range |



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