

Sensor Data Sheet

SENSALERT PLUS

SENSIDYNE



Ethylene Oxide (0 – 10.0 ppm) Part No. 823-0245-21

Minimum Indicated Concentration	0.3 ppm
Repeatability	± 2% of Reading
Accuracy ¹	± 5% of Reading
Span Drift	< 5% change per year (typical)
Response Time (Rise) ²	T ₅₀ : < 15 seconds
	T ₉₀ : < 60 seconds, successive exposures
Recovery Time (Fall)	T ₁₀ : < 180 seconds
Temperature Range	-20 to 40°C (-4 to 104°F)
Humidity Range (continuous)	15–95 %RH, non-condensing ⁴
Humidity Range (intermittent).....	0–99 %RH, non-condensing
Pressure Range	Ambient atmospheric, ± 1 psi
Expected Sensor Life	24 months from Shipping Date
Recommended Calibration Flow Rate	500 to 1000 cc/min
Oxygen Requirement	1% by volume, minimum
SensAlert 4-Channel Controller.....	Compatible

¹ When unit is calibrated and serviced at recommended intervals.

² Room Temperature, seasoned system.

Cross-Interferences*

Gas	Gas Exposure	Sensor Output
Acrylonitrile	3 ppm	+1 ppm
Alcohols	ppm levels	Yes**
Ammonia	100 ppm	None
Ethylene	1.3 ppm	+1 ppm
Carbon Disulfide	2 ppm	+1 ppm
Carbon Monoxide	2.5 ppm	+1 ppm
Hydrogen Sulfide	0.5 ppm	+1 ppm
Nitrogen Dioxide	11 ppm	+1 ppm
Nitric Oxide	2.5 ppm	+1 ppm
Ozone	0.9 ppm	-1 ppm
Sulfur Dioxide	2.5 ppm	+1 ppm
Vinyl Chloride	1.4 ppm	+1 ppm

* Interference factors may differ from sensor to sensor, it is not advisable to calibrate with interferent gases.

**Ethanol, Ethanol, Isopropyl alcohols will result in a positive output near or above a 1:1 interference

Special Calibration Considerations: **Hydrogen Chloride (PN 823-0245-21)**

Zeroing The Sensor

A rapid change in moisture levels will result in transient output spikes with this sensor. A change from moist air (room air) to dry air (bottled zero-air) will result in a negative transient and vice versa. The use of zero-air is recommended for zeroing this sensor due to possible common cross interferents. When zero-air (or other bottled gas) is used, the gas should be allowed to flow over the sensor for 3 to 5 minutes prior to zeroing in order to overcome transient outputs. Complete zeroing instructions are provided in the SensAlert^{Plus} User Manual.

Span Calibration

It is recommended that this sensor be calibrated at the half-scale concentration of 5 ppm Ethylene Oxide. It is recommended that the sensor undergo a 3 to 5 minute pre-calibration exposure in order to overcome moisture transients as described above. This pre-exposure ensures that the gas reaches the sensor at full concentration. The use of Teflon™ tubing is recommended with this gas to prevent gas absorption into the tubing walls. Complete span calibration instructions are provided in the SensAlert^{Plus} User Manual.

Test-on-Demand Cell

Test-On-Demand cell available for this sensor: PN 821-0204-10 (Type H)

Biased Sensor Note

This sensor has a +300 mV bias applied between its reference and sensing electrodes. For this reason, this sensor is shipped on a (non-intrinsically safe) battery bias board. If the sensor is unplugged from the bias board or the transmitter (or the transmitter loses power) this bias is lost and the sensor will produce an elevated baseline. The time needed for the baseline to fall to zero depends on how long the sensor was without a bias voltage. A loss of bias voltage for 1 minute could result in up to 15 minutes or more of elevated baseline while a 24 hour loss of bias could take over 72 hours for the baseline to recover to zero.

Bias Battery Board Note

The battery on the bias board contains approximately 0.5 g of lithium metal. A risk of fire or explosion exists if this battery is improperly handled. Do not puncture or force open. Do not heat or dispose of in fire. Do not attempt to recharge this battery.