

Sensor Data Sheet

SENSALERT[®] PLUS

SENSIDYNE



Ethylene Oxide
(0 – 500 ppm)
Part No. 823-0245-22

Minimum Indicated Concentration	15 ppm
Repeatability	± 5% of Reading
Accuracy ¹	± 10% 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) ²	T ₁₀ : < 120 seconds
Temperature Range	-20° to 40°C (-4° to 104°F)
Humidity Range (continuous)	15–95 %RH, non-condensing
Humidity Range (intermittent)	0–99 %RH, non-condensing
Pressure Range	Ambient atmospheric, ± 1 psi
Expected Sensor Life	36 months from Shipping Date
Recommended Calibration Flow Rate	500 to 1000 cc/min
Oxygen Requirement	1% by volume, minimum
SensAlert 4-Channel Controller	Not 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	1.8 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:

Ethylene Oxide (PN° 823-0245-22)

Zeroing The Sensor

Where possible, it is recommended that these sensors be zeroed in known clean (interferent free) ambient air. If bottled zero air is used to preclude interferents, it should be allowed to flow over the sensor for 3 to 5 minutes prior to zeroing in order to reduce moisture transient outputs. Complete zeroing instructions are provided in the SensAlert^{Plus} User Manual or SensAlert ASI User Manual.

Span Calibration

It is recommended that, if acceptable exhaust ventilation is used, this sensor be calibrated at a concentration of 100 to 250 ppm Ethylene Oxide. The sensor should undergo a 2 to 3 minute pre-calibration exposure in order to overcome minor moisture transients as well as to season the gas delivery components. This pre-exposure ensures that the gas reaches the sensor at full concentration. The use of Teflon™ tubing or equivalent is required with this gas to prevent gas absorption into the tubing walls. If no acceptable exhaust ventilation is available, it is recommended that this sensor be spanned to 136ppm (ETO calibration value) using 250ppm Carbon Monoxide gas. This safety recommendation will reduce or eliminate toxic exposure of personnel performing the sensor calibrations. Complete span calibration instructions are provided in the SensAlert^{Plus} User Manual or SensAlert ASI User Manual.

Test-on-Demand Cell

There is no Test-On-Demand cell available for this sensor.

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.