

Sensor Data Sheet

SENSALERT PLUS

SENSIDYNE®



Carbon Disulfide
(3 – 100 ppm)
Part No. 823-0252-21

Minimum Indicated Concentration 3 ppm
 Repeatability¹ ± 5% of Reading
 Accuracy² ± 10% of Reading
 Span Drift < 10% change per 6 months (typical)
 Response Time (Rise)³ T₉₀: < 80 sec, successive exposures
 Recovery Time (Fall)³ T₉₀: < 90 sec
 Temperature Range -20° to 50°C (-4° to 122°F)
 Humidity Range (continuous)⁴ 15–90 %RH, non-condensing
 Humidity Range (intermittent)..... 0–99 %RH, non-condensing
 Pressure Range Ambient atmospheric, ± 1 psi
 Expected Sensor Life 3 years 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 Repeatability is dependent on the recovery time between exposures. Sensors exhibit 5% (of exposure concentration) repeatability when re-exposed at least 24 hours after the original exposure. A sensor re-exposed 30 minutes after the initial exposure would exhibit 20% repeatability.

² Accuracy based on 16 to 24 hour exposure intervals.

³ Response time at room temperature & 24 hour exposure interval. Recovery time is based on the exposure magnitude and time, higher concentrations for more than 5 minutes can result in hours long recovery times.

⁴ Abrupt changes in moisture can produce output transients of ± 10% of full scale.

Cross-Interferences¹

Gas	Gas Exposure	Sensor Output
Carbon Monoxide	0.26 ppm	+1 ppm
Chlorine	1 ppm	none
Hydrogen	0.43 ppm	+1 ppm
Hydrogen Chloride	5 ppm	None
Hydrogen Cyanide	1.32 ppm	+1 ppm
Hydrogen Sulfide	0.67 ppm	+1 ppm
Nitric Oxide	1.32 ppm	+1 ppm
Nitrogen Dioxide	5 ppm	None

¹ Interference factors may differ from sensor to sensor, it is not advisable to calibrate with interferent gases.

Special Calibration Considerations: **Carbon Disulfide Sensor (PN° 823-0252-21)**

Target Gas Exposure

Exposure to CS₂ temporarily reduces the activity reserve of these sensors and lowers their output for subsequent exposures. Exposure to 50 ppm CS₂ for 5 minutes will reduce the activity reserve by approximately 20%, i.e. a second exposure of 50 ppm CS₂ 30 minutes later would read approximately 40 ppm. Further reductions could occur with shorter exposure intervals. This sensitivity reduction is temporary and the sensor will regain its original output within 16 to 24 hours after that initial exposure. This sensor is not recommended for applications where high concentrations or frequent/continuous exposures could occur.

Zeroing The Sensor

It is recommended that the sensor be held in clean air for 60 minutes prior to zeroing. If possible, the sensor should be zeroed in clean ambient air. If Zero Air is used, a 5 to 10 minute exposure is recommended to ensure the sensor is clear of gas. Complete zeroing instructions are provided in the SensAlert^{Plus} User Manual or SensAlert ASI User Manual.

Span Calibration

It is recommended that this sensor be calibrated with 33 ppm CS₂ gas. A 3 to 5 minute pre-exposure is recommended prior to calibration. This pre-exposure helps to "season-in" the calibration equipment so that gas reaches the sensor at full concentration. Complete span calibration instructions are provided in the SensAlert^{Plus} User Manual or SensAlert ASI User Manual. The sensor may be bump tested with 15 ppm carbon monoxide gas (standard disposable cylinder mixture). Bump testing with 15ppm CO will give a reading of approximately 57 ppm CS₂ on a calibrated sensor – note that CO gas does not affect the sensor sensitivity and can be repeated as required. Bump testing with CO gas on a sensor previously exposed (within several hours) to CS₂ gas will result in lower readings due to temporary sensor sensitivity loss.

Test-on-Demand Cell

Test-On-Demand cell available for this sensor: 821-0204-06 (Type S).