

Sensor Data Sheet

SENSALERT PLUS



Hydrogen Chloride (0 – 20.0 ppm) Part No. 823-0208-22 FM Performance Certified ¹



- Minimum Indicated Concentration 0.6 ppm
- Repeatability ± 5% of Reading
- Accuracy² ± 10% of Reading
- Span Drift < 3% change per month (typical)
- Response Time (Rise)³ T₅₀: < 15 seconds
T₉₀: < 30 seconds, successive exposures
- Recovery Time (Fall)³ T₁₀: < 90 seconds
- Temperature Range -20° to 50°C (-4° to 122°F)
- Humidity Range (continuous) 15–95 %RH, non-condensing⁴
- 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..... Compatible

¹ For use in an FM Approved SensAlert Plus Transmitter.
² When unit is calibrated and serviced at recommended intervals.
³ Room Temperature, seasoned system.
⁴ High humidity causes HCl absorption.

Cross-Interferences*

| Gas | Gas Exposure | Sensor Output |
|---------------------|--------------|---------------|
| Ammonia | 1000 ppm | +1 ppm |
| Arsine | 0.3 ppm | +1 ppm |
| Carbon Monoxide | 100 ppm | None |
| Chlorine | 16 ppm | +1 ppm |
| Hydrogen Bromide | 1 ppm | +1 ppm |
| Hydrogen Cyanide | 3 ppm | +1 ppm |
| Hydrogen Sulfide ** | 0.3 ppm | +1 ppm |
| Nitrogen Dioxide | 33 ppm | +1 ppm |
| Sulfur Dioxide | 2.5 ppm | +1 ppm |

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

Special Calibration Considerations: **Hydrogen Chloride (PN° 823-0208-22)**

Zeroing The Sensor

There are no special zeroing considerations for this sensor. 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 at the half-scale concentration of 10 ppm HCl. It is recommended that the sensor undergo a 3 to 5 minute pre-calibration exposure in order to season the calibration system. 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 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 +200 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.