

Sensor Data Sheet

SENSALERT PLUS**SENSIDYNE**

HYDROGEN
%LEL Electrochemical Sensor
(100%LEL max. reading)
Part No. 823-0210-41

| | |
|---|---|
| Minimum Indicated Concentration | 3 %LEL |
| Repeatability | ± 5% of Reading |
| Accuracy ¹ | ± 10% of Reading |
| Span Drift | < 10% change per year (typical) |
| Response Time (Rise) ² | T ₅₀ : < 40 seconds |
| | T ₉₀ : < 120 seconds, successive exposures |
| Recovery Time (Fall) ² | T ₁₀ : < 120 seconds |
| Temperature Range | -20° to 50°C (-4° to 122°F) |
| Humidity Range (continuous) | 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 ³ |
| Oxygen Requirement | 20.9% by volume ⁴ |
| SensAlert 4-Channel Controller..... | Compatible |

¹When unit is calibrated and serviced at recommended intervals.

²Room Temperature

³Pressure sensitivities make higher flow rates inadvisable

⁴Hydrogen %LEL values based on standard 20.9% O₂ ambient air atmosphere

Cross-Interferences*

| Interferent Gas | Interferent Exposure | Sensor Output |
|-------------------|----------------------|---------------|
| Carbon Monoxide | 1000 ppm | +1 %LEL |
| Chlorine | 1 ppm | None |
| Ethylene | 1.0 %Vol (37 %LEL) | +1 %LEL |
| Hydrogen Chloride | 5 ppm | None |
| Hydrogen Cyanide | 1200 ppm | +1 %LEL |
| Hydrogen Sulfide | 600 ppm | +1 %LEL |
| Nitric Oxide | 1400 ppm | +1 %LEL |
| Nitrogen Dioxide | 5 ppm | None |

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

H₂ %LEL EC Sensor Operation Notes

Mechanical Stress

This sensor incorporates a small capillary through the sensor inner flange for controlling gas diffusion into the sensor. Pressure on the face of the sensor can distort this capillary, and, in extreme cases, create cracks in the inner flange. For this reason, the sensor must not be used with the SensAlert^{Plus} sensor sealing gasket. Use of this gasket may result in erratic, non-repeatable readings, continuously increasing readings, or other anomalies. In addition, sensors removed for storage or transport should be placed on their side in the sensor shipping jar – this will prevent the shipping foam from inducing stress on the sensor face.

Pressure Pulse Effects

Due to the small gas inlet capillary this sensor should not be used in conjunction with a pumped aspirated sampling system. Pressure pulses from the pump will tend to drive the sensor high in low gas conditions.

H₂ %LEL EC Sensor Calibration Considerations

Zeroing The Sensor

In order to exclude interferent gases, zeroing with bottled air is recommended. It is important that a known zero gas is used for this procedure. There are no special zeroing considerations for this sensor. Complete zeroing instructions are provided in the SensAlert^{Plus} manual.

Span Calibration

It is recommended that this sensor be calibrated at the half-scale concentration (50 %LEL H₂). A 3 to 5 minute pre-exposure may be required for calibration. Complete span calibration instructions are provided in the SensAlert^{Plus} manual.

Test-on-Demand Cell

There is no recommended T-o-D cell for this sensor.