Formaldehyde
(0 – 20.0 ppm)
Part No. 823-0254-21

Minimum Indicated Concentration .............. 0.6 ppm
Repeatability2 ............................................. ± 5% of Reading
Accuracy1 .................................................... ± 10% of Reading
Span Drift .................................................... < 12% change per 6 months (typical)
Response Time (Rise)2 .............................. T90: < 90 seconds
Recovery Time (Fall)2 ................................. T10: < 120 seconds
Temperature Range ................................... -20° to 50°C (-4° to 113°F)
Humidity Range (continuous)3 .................... 10–95 %RH, non-condensing
Humidity Range (intermittent)3 ................. 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............... Not Compatible

1When unit is calibrated and serviced at recommended intervals.
2Room Temperature, seasoned system.
3Sensor is subject to moisture transients on sudden changes in moisture level. Note that transients are positive for decreasing moisture and vice versa.

Cross-Interferences*

<table>
<thead>
<tr>
<th>Gas</th>
<th>Gas Exposure</th>
<th>Sensor Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Monoxide</td>
<td>83</td>
<td>+1 ppm</td>
</tr>
<tr>
<td>Acetic Acid</td>
<td>6700 ppm</td>
<td>-1 ppm</td>
</tr>
<tr>
<td>Ethanol</td>
<td>10,000 ppm</td>
<td>+1 ppm</td>
</tr>
<tr>
<td>Ethylene</td>
<td>143 ppm</td>
<td>+1 ppm</td>
</tr>
<tr>
<td>Hydrogen Sulfide</td>
<td>1.8 ppm</td>
<td>+1 ppm**</td>
</tr>
<tr>
<td>Isopropyl Alcohol</td>
<td>500 ppm</td>
<td>+1 ppm</td>
</tr>
<tr>
<td>Methyl Alcohol</td>
<td>250 ppm</td>
<td>+1 ppm</td>
</tr>
</tbody>
</table>

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

** H2S will temporarily inhibit sensor and result in reduced outputs. A 5 minute exposure to 25ppm will produce a declining signal that takes over 16 hours in clean air to re-equilibrate to previous levels.
Special Calibration Considerations:
Formaldehyde (PN° 823-0254-21)

Zeroing the Sensor
It is recommended that the sensors be zeroed in clean ambient air or bottled Zero Air. If zero air is used, it must be moisturized to ambient conditions and a pre-zeroing exposure of 2 to 5 minutes is recommended to overcome possible moisture transients. Note that the sensor may exhibit a transient spike up to 2ppm when suddenly exposed to dry Zero Air or -2ppm if suddenly exposed to moist air from dry ambient conditions. Complete zeroing instructions are provided in the SensAlertPlus User Manual or SensAlert ASI User Manual.

Span Calibration
It is recommended that this sensor be calibrated at 10 ppm CH₂O. A pre-exposure of at least 2 minutes under cal gas is recommended to overcome moisture transients. The use of HDPE or Teflon™ tubing is recommended with this gas to prevent gas absorption into the tubing walls. Complete span calibration instructions are provided in the SensAlertPlus User Manual or SensAlert ASI User Manual.

Test-on-Demand Cell
There is no Test-On-Demand cell available for this sensor:

Moisture Effects
These sensors exhibit a positive moisture transient when exposed to a rapid decrease in ambient moisture. The sensors underwent a negative transient when suddenly exposed to moist air (23°C, 40 to 60%RH) after long exposure to dry air/gas. These transients took from 10 to 25 seconds to fall below zero suppression. The magnitude of these transients (+ 2ppm, -2ppm) could throw the sensor into alarm or sensor fail conditions prior to falling below baseline suppression levels.

Equipment Material Effects
Formaldehyde will adsorb to aluminum anodizing similar to other molecular sieves, resulting in significant increases in apparent sensor clearing times as the CH₂O molecules desorb from the anodizing. For this reason, these sensors should only be used with high-density PVC sensor holders, p/n 821-0507-03.