**Midas® SENSOR CARTRIDGE SPECIFICATIONS**

**Carbonyl Sulfide (COS)**  
**MIDAS-X-COS**

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**Gas Measure** | **Carbonyl Sulfide (COS)**
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Cartridge Part Number | MIDAS-X-COS 2 year extended warranty
Sensor Technology | 4 electrode electrochemical cell
Measuring range (ppm) | COS 0-100 ppm
Minimum Alarm 1 Set Point | 10 ppm
Repeatability | < ± 30 % of full scale
Linearity | < ± 30 % of full scale
Response time t62.5 | ≤ 60 seconds
Sensor Cartridge Life Expectancy | ≥ 24 months under typical application conditions
Operating temperature | 0 °C to + 40 °C (32 °F to 104 °F)
Zero Sensitivity | < ± 10 ppm (at 10 °C to 30 °C)
Operating humidity | 15-90 %RH (Sensor Datasheet)
Effect of Humidity | < ± 10 ppm (at 45 %RH)
Zero Sensitivity | < ± 30 % of full scale (at 45 %RH)
Operating Pressure | 90 – 110kPa (Sensor Datasheet)
Effect of Position | No effect in typical application
Long Term Drift | Zero Sensitivity | < ± 10 ppm
| < ± 30 % of full scale
Calibration Gas | Carbonyl Sulfide (50 ppm COS)
Challenge Gas (Bump Test) | Carbonyl Sulfide (50 ppm COS)
Warm Up Time | ≤ 60 minutes
Storage Temperature | +3 °C to +20 °C (+37 °F to +68 °F) (Sensor Datasheet)

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**Cross Sensitivities**

Each Midas® sensor is potentially cross sensitive to other gases and this may cause a gas reading when exposed to other gases than those originally designated. The table below presents typical readings that will be observed when a new sensor cartridge is exposed to the cross sensitive gas (or a mixture of gases containing the cross sensitive species).

<table>
<thead>
<tr>
<th>Gas / Vapor</th>
<th>Chemical Formula</th>
<th>Concentration Applied (ppm)</th>
<th>Reading (ppm COS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Monoxide</td>
<td>CO</td>
<td>50</td>
<td>≥100</td>
</tr>
<tr>
<td>Hydrogen Sulfide</td>
<td>H₂S</td>
<td>15</td>
<td>&lt;100</td>
</tr>
<tr>
<td>Sulfur Dioxide</td>
<td>SO₂</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Nitrogen Dioxide</td>
<td>NO₂</td>
<td>5</td>
<td>-15</td>
</tr>
<tr>
<td>Chlorine</td>
<td>Cl₂</td>
<td>1</td>
<td>-1.5</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>H₂</td>
<td>100</td>
<td>&lt;100</td>
</tr>
<tr>
<td>Hydrogen Cyanide</td>
<td>HCN</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Hydrogen Chloride</td>
<td>HCl</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Ethylene</td>
<td>C₂H₄</td>
<td>100</td>
<td>&lt;100</td>
</tr>
<tr>
<td>Nitric Oxide</td>
<td>NO</td>
<td>35</td>
<td>30</td>
</tr>
<tr>
<td>iso-Propyl Alcohol (IPA)*</td>
<td>C₃H₇OH</td>
<td>500</td>
<td>0</td>
</tr>
</tbody>
</table>

*IPA filter (1830K0030) is required when a sensor cartridge can be exposed to the concentrated IPA vapor. The filter replacement interval depends on IPA exposure; however, Honeywell recommends the filter replacement every two months.

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H_MIDAS-X-COS_v1 02/20  
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