### 1. INTRODUCTION & 2. ASSOCIATED DOCUMENTATION

**SAFETY**

**WARNINGS**

- This apparatus is not suitable for use in oxygen enriched atmospheres (>21%v/v). Oxygen deficient atmospheres (<10%v/v) may suppress sensor output.
- Refer to local or national regulations relative to installation at the site.
- Operators should be fully aware of the action to be taken if the gas concentration exceeds an alarm level.
- Installation should consider not only the site, gas characteristics and ventilation, but also the potential of mechanical damage is minimized or avoided.
- Electrostatic risk - Do not rub or clean with solvents. Clean with a damp cloth. High velocity airflows and dusty environments can cause hazardous electrostatic charges.
- Atmospheres above 100% LEL may suppress sensor output.
- Do not modify or alter the sensor construction as to present ignition sources arcing, even in the event of frequent disturbances or equipment operating faults.
- The sensor must be protected from impact.
- The detector is considered to present a potential electrostatic charge risk and must not be located in high air flows or rubbed.
- The detector must be protected from impact, or omissions. Data may change, as well as legislation, while every effort has been made to ensure accuracy in this publication, no responsibility can be accepted for errors or omissions. Data may change, as well as legislation.
- The control card must have a suitably rated fuse.

**ATEX SPECIAL CONDITIONS FOR SAFE USE**

The detector must be protected from impact.

The integral supply cables must be protected from impact and terminated in a suitable terminal facility.

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1. **INTRODUCTION**

Sensopoint is a sealed disposable sensor for the detection of flammable gases and is designed for use with an approved junction box.

It employs a catalytic Pellistor sensor device which is used as part of a bridge measuring circuit.

Sensopoint is certified for hazardous areas to EN60079 and is protected against water and dust ingress to IP67. The installation must be consistent with the certification approval.

The sensor is available in M20 or 3/4" NPT thread versions.

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2. **ASSOCIATED DOCUMENTATION**

### 2106M0502 Sensopoint Technical Handbook

Refer to the relevant control system manual for connection information.

### 2106B1206 (M20)

**Sensor**

**2106B1209 (3/4" NPT)**

**Weather protection**

**Sensor filter**

**Flow housing**

**Collecting cone**

**Junction box (std)**

To reorder a complete new sensor, see the label on the product leads, or contact Honeywell Analytics Ltd.

### 1. INTRODUCTION & 2. ASSOCIATED DOCUMENTATION

**SAFETY**

**WARNINGS**

- This apparatus is not suitable for use in oxygen enriched atmospheres (>21%v/v). Oxygen deficient atmospheres (<10%v/v) may suppress sensor output.
- Refer to local or national regulations relative to installation at the site.
- Operators should be fully aware of the action to be taken if the gas concentration exceeds an alarm level.
- Installation should consider not only the best placing for gas leakage related to potential leak points, gas characteristics and ventilation, but also where the potential of mechanical damage is minimized or avoided.
- Electrostatic risk - Do not rub or clean with solvents. Clean with a damp cloth. High velocity airflows and dusty environments can cause hazardous electrostatic charges.
- Atmospheres above 100% LEL may suppress sensor output.
- Do not modify or alter the sensor construction as to present ignition sources arcing, even in the event of frequent disturbances or equipment operating faults.
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2. **ASSOCIATED DOCUMENTATION**

**2106M0502 Sensopoint Technical Handbook**

Refer to the relevant control system manual for connection information.
3. INSTALLATION

Installation and service must be performed by a qualified installation engineer with the power to the sensor disconnected.

The Sensepoint must be fitted into a suitably approved Ex e or Ex d junction box fitted with a suitably approved cable gland. This should be correctly installed before use.

The sensor should be installed in a location free from direct heat sources. For optimum protection against water ingress ensure that the sensor is installed facing downwards.

See the Sensepoint Gas Sensors Technical Handbook for installation in a duct or in forced air conditions.

Remove the sensor’s protective disc before use by unscrewing the filter housing, removing the filter and then the disc. Discard the protective disc. Refit the filter into the filter housing and replace the filter housing on the sensor.

The field connections should be three-core multi-strand cable with a maximum conductor size of 2.5mm² (14AWG). A screened cable is necessary.

The sensor should be fitted into a threaded hole within the junction box and locked in place with a lock nut. Ensure that junction box thread is compatible with sensor thread.

Connect the field and Sensepoint wiring to the junction box connector block as shown in the following diagram. The unit requires 20mA current with a nominal 3V supply.

4. INSTALLATION & 4. CALIBRATION

Table 1: Recommended full scale deflection (fsd)

<table>
<thead>
<tr>
<th>Gas or Vapour</th>
<th>fsd</th>
<th>Gas or Vapour</th>
<th>fsd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>5000 ppm</td>
<td>Hydrogen</td>
<td>5000 ppm</td>
</tr>
<tr>
<td>Ammonia</td>
<td>15000 ppm</td>
<td>MIBK</td>
<td>3000 ppm</td>
</tr>
<tr>
<td>Butane</td>
<td>5000 ppm</td>
<td>Octane</td>
<td>3000 ppm</td>
</tr>
<tr>
<td>Butanone (MEK)</td>
<td>5000 ppm</td>
<td>Propane</td>
<td>5000 ppm</td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>3000 ppm</td>
<td>Tetrhydrofuran</td>
<td>5000 ppm</td>
</tr>
<tr>
<td>Diethyl ether</td>
<td>5000 ppm</td>
<td>Toluene</td>
<td>3000 ppm</td>
</tr>
<tr>
<td>Ethane</td>
<td>5000 ppm</td>
<td>Triethlylamine</td>
<td>5000 ppm</td>
</tr>
<tr>
<td>Ethylene</td>
<td>3000 ppm</td>
<td>Xylene</td>
<td>3000 ppm</td>
</tr>
<tr>
<td>Heptane</td>
<td>3000 ppm</td>
<td>Methane</td>
<td>7000 ppm</td>
</tr>
<tr>
<td>Hexane</td>
<td>3000 ppm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. CALIBRATION & 5. FAULT FINDING

Table 2: Recommended full scale deflection (fsd)

Gas or Vapour | fsd |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>5000 ppm</td>
</tr>
<tr>
<td>Ammonia</td>
<td>15000 ppm</td>
</tr>
<tr>
<td>Butane</td>
<td>5000 ppm</td>
</tr>
<tr>
<td>Butanone (MEK)</td>
<td>5000 ppm</td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>3000 ppm</td>
</tr>
<tr>
<td>Diethyl ether</td>
<td>5000 ppm</td>
</tr>
<tr>
<td>Ethane</td>
<td>5000 ppm</td>
</tr>
<tr>
<td>Ethylene</td>
<td>3000 ppm</td>
</tr>
<tr>
<td>Heptane</td>
<td>3000 ppm</td>
</tr>
<tr>
<td>Hexane</td>
<td>3000 ppm</td>
</tr>
</tbody>
</table>

6. MAINTENANCE

- Remove the black plastic retainer or accessory.
- Remove the old filter and replace it with a fresh filter.
- Replace the black plastic retainer or accessory.

7. Cross Sensitivities (measured at 20°C STP)

<table>
<thead>
<tr>
<th>Applied gas or Vapour</th>
<th>Relative Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>120 ppm/500 ppm</td>
</tr>
<tr>
<td>Ammonia</td>
<td>65 ppm/15000 ppm</td>
</tr>
<tr>
<td>Butane</td>
<td>164 ppm/5000 ppm</td>
</tr>
<tr>
<td>Butanone (MEK)</td>
<td>140 ppm/5000 ppm</td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>193 ppm/3000 ppm</td>
</tr>
<tr>
<td>Diethyl ether</td>
<td>140 ppm/5000 ppm</td>
</tr>
<tr>
<td>Ethane</td>
<td>133 ppm/1500 ppm</td>
</tr>
<tr>
<td>Ethylene</td>
<td>181 ppm/5000 ppm</td>
</tr>
<tr>
<td>Heptane</td>
<td>200 ppm/1500 ppm</td>
</tr>
<tr>
<td>Hexane</td>
<td>193 ppm/5000 ppm</td>
</tr>
</tbody>
</table>

8. 4.2 CROSS CALIBRATION PROCEDURE

When the Sensepoint sensor is to be calibrated with a gas which is different from the gas/vapour to be detected, the following cross calibration procedure should be followed:

1. First ensure there is no gas present on the sensor.
2. Gas to be detected is in the range 0-3000 ppm.
3. Set the zero reading on the control system.
4. Replace the filter housing or accessory and replace it with a Flow Housing accessory, if not already fitted.
5. Connect the Flow Housing input to a regulated cylinder, containing a known concentration of target gas at approximately the sensor alarm point (e.g. 50% FSD gas in air), using nylon or PTFE tubing.

Caution: As some test gases may be hazardous, the Flow Housing outlet should exhaust to a safe area.

6. 6.1 CHANGING FILTERS

- Ensure that there are no poisoning effects that will reduce the sensor performance. This would be indicated by a reduction in the mV output for the same gas concentration. It is recommended that the sensor is replaced when 60% loss has occurred.

For calibration using the Weather Protection in high flow applications refer to the technical handbook.