Ozone

Sensoric O3 3E 1
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FEATURES

- Amperometric 3 electrode sensor cell
- Long life time
- High reliability
- High resolution
- Fast response time
- Fixed organic gel electrolyte

TYPICAL APPLICATIONS

- Environmental monitoring
- Indoor Air Quality, water treatment plants

PART NUMBER INFORMATION

- MINI: 1531-031-30009
- SENSORIC CLASSIC: 1531-031-30069
- CTL 4 series adaptation: 1531-031-30049
- CTL 7 series adaptation: 1531-031-30079

Sensoric deems the data contained herein as factual, and the opinions expressed are those of qualified experts based on the results of tests conducted. The above data can not be used as a warranty provision or representation for which Sensoric assumes legal responsibility. The data are offered solely for consideration, investigation and verification. Any use of this information is subject to federal, state and local laws and regulations.
Sensoric Sensors are designed and manufactured in
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Tel: ++49 (0) 228 52 66 40   Fax: ++49 (0) 228 5266439

Product Data Sheet

Sensoric O3 3E 1

TECHNICAL SPECIFICATIONS

Measuring Range          0–1 ppm
Sensitivity Range         1000 - 2000 nA/ppm (negative signal)
Zero Current at 20°C      < ± 20 nA
Resolution at 20°C        < 0.02 ppm
Bias Potential            0 mV
Linearity                 < 10% full scale

Response Time at 20°C

\[ t_{50} < 15 \text{ s calculated from 3 min. exposure time}^{1)}\]
\[ t_{90} < 60 \text{ s calculated from 3 min. exposure time}^{1)}\]

Long Term Sensitivity Drift < 10% per 6 months \(^2)\)

Operation Conditions

Temperature Range         -20 °C to +40 °C
Humidity Range            15–90% r.H., non–condensing

Effect of Humidity         abrupt changes will cause a short term drift

Sensor Life Expectancy    > 18 months
Warranty                  12 months

1) At approx. 30 ccm/ min. (tolerance range to \( t_{90} \): 30 to 60 sec.; depend on air velocity; minimum gas flow 5 l/h)
2) At 20 °C and 30-50% r.H.; Sensitivity might increase over life time depending on application; high air flow conditions might effect life time.

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Temperature dependence on zero reading:

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RELATIVE OUTPUT vs. TEMPERATURE:
(normalized to the output at 20 °C)

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## CROSS SENSITIVITIES AT 20°C

<table>
<thead>
<tr>
<th>Gas</th>
<th>Concentration</th>
<th>Reading [ppm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bromine, Iodine</td>
<td>yes; n/d</td>
<td></td>
</tr>
<tr>
<td>Carbon Dioxide</td>
<td>5000 ppm</td>
<td>0</td>
</tr>
<tr>
<td>Carbon Monoxide</td>
<td>100 ppm</td>
<td>0</td>
</tr>
<tr>
<td>Chlorine</td>
<td>1 ppm</td>
<td>1.2</td>
</tr>
<tr>
<td>Chlorine Dioxide</td>
<td>1 ppm</td>
<td>1.5</td>
</tr>
<tr>
<td>Hydrazine</td>
<td>3 ppm</td>
<td>-3</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>3000 ppm</td>
<td>0</td>
</tr>
<tr>
<td>Hydrogen Sulfide</td>
<td>20 ppm</td>
<td>-1.6 ¹</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>100 %</td>
<td>0</td>
</tr>
<tr>
<td>Nitrogen Dioxide</td>
<td>10 ppm</td>
<td>6</td>
</tr>
</tbody>
</table>

¹) Continuous exposure at ppm level over more than 30 min. might blind the sensor.

**Notes:**
1. Interference factors may differ from sensor to sensor and with lifetime. It is not adviseable to calibrate with interference gases.
2. This table does not claim to be complete. The sensor might also be sensitive to other gases.

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**Safety Note**

This sensor is designed to be used in safety critical applications. To ensure that the sensor and/or instrument in which it is used, are operating properly, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may jeopardize the safety of people and property.

**Attention**

Use of the Sensoric range sensors requires complete understanding of the instructions. Before using Sensoric range sensors please carefully read ‘Application Notes’ which can be found at www.citytech.com under the heading ‘Support’ -> ‘Application Notes’ -> ‘Sensoric’

Product Safety Data Sheets (PSDS) can be obtained at www.citytech.com under the heading ‘Support’ -> ‘Product Safety Datasheets’

For further assistance on sensor selection and use, please contact a member of the Technical Sales team.