Infrared gas sensor using dual beam technology, with measurement and reference channel, for monitoring room air in cold storage houses and leak detection in cooling systems. Integrated evaluation electronics for drift and temperature compensation.

Gas supply by diffusion

<table>
<thead>
<tr>
<th>Gases</th>
<th>Measurement range</th>
<th>Model type</th>
</tr>
</thead>
<tbody>
<tr>
<td>dichlorotrifluoroethane R123</td>
<td>0-2000 ppm</td>
<td>B1-730205-04000</td>
</tr>
<tr>
<td>pentafluoroethane R125</td>
<td>0-2000 ppm</td>
<td>B1-720205-04000</td>
</tr>
<tr>
<td>tetrafluoroethane R134a</td>
<td>0-2000 ppm</td>
<td>B1-710205-04000</td>
</tr>
<tr>
<td>refrigerant R404a</td>
<td>0-2000 ppm</td>
<td>B1-740205-04000</td>
</tr>
<tr>
<td>chlorodifluoromethane R22</td>
<td>0-2000 ppm</td>
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Gas supply by perfusion

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* More gases and measuring ranges on request
## General features

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<tr>
<th>Feature</th>
<th>Diffusion B1-</th>
<th>Perfusion F1-</th>
</tr>
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<tbody>
<tr>
<td>Measurement principle</td>
<td>Non Dispersive Infra-Red (NDIR), dual wavelength</td>
<td></td>
</tr>
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<td>Measurement range</td>
<td>0 - 2000 ppm</td>
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<td>Gas supply</td>
<td>by diffusion</td>
<td>by perfusion</td>
</tr>
<tr>
<td>Dimensions</td>
<td>62 mm x 37 mm x 30 mm (L x W x H)</td>
<td>11 mm x 28 mm x 42 mm (L x W x H)</td>
</tr>
<tr>
<td>Gas line connectors</td>
<td>-</td>
<td>3 mm internal, 5mm outer diameter</td>
</tr>
</tbody>
</table>

## Technical features

- **Response time (t90):**
  - Appr. 30 s
  - Appr. 15 s (at 0.5 l/min)
- **Resolution:**
  - 1 ppm
  - 1 ppm
- **Accuracy:**
  - ≤ ±2 % FS
  - ≤ ±2 % FS
- **Long term stability (zero):**
  - ≤ ±2 % FS over 12 month period
  - ≤ ±2 % FS over 12 month period
- **Long term stability (span):**
  - ≤ ±2 % FS over 12 month period
  - ≤ ±2 % FS over 12 month period
- **Repeatability:**
  - ≤ ±2 % FS
  - ≤ ±2 % FS
- **Linearity error:**
  - ≤ ±1 % FS
  - ≤ ±1 % FS
- **Lower detection limit:**
  - < 10 ppm
  - < 10 ppm
- **Operating temperature:**
  - -25 °C to 25 °C
  - -25 °C to 25 °C
- **Storage temperature:**
  - -25 °C to 60 °C
  - -25 °C to 60 °C
- **Humidity:**
  - 0 % to 95 % rel. humidity (not condensing)
  - 0 % to 95 % rel. humidity (not condensing)
- **Temp. dependence (zero):**
  - ≤ ±0.05 % FS per °C
  - ≤ ±0.05 % FS per °C
- **Temp. dependence (span):**
  - ≤ ±0.2 % FS per °C
  - ≤ ±0.2 % FS per °C without heating
- **Air pressure:**
  - 950 to 1050 mbar
  - 950 to 1050 mbar
- **Pressure dependence (zero):**
  - -
  - -
- **Pressure dependence (span):**
  - 0.1 % per mbar
  - 0.1 % per mbar
- **Warm-up time:**
  - < 2 minutes (start up time)
  - < 30 minutes (full specification)
  - < 2 minutes (start up time)
  - < 30 minutes (full specification)
- **Flow rate:**
  - -
  - 0.2 - 1.5 l/min

## Communication

- **Digital output signal:**
  - Modbus ASCII via UART

## Electrical data

- **Supply voltage:**
  - 6 V DC ± 5 %
- **Supply current:**
  - 70 mA average, max. 140 mA
- **Power consumption:**
  - < 1 Watt

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1 FS = Full scale | 2 Dependent on the gas and the measurement range | 3 Dependent on model type

Please consult smartGAS Marketing for parts specified with other temperature and measurement ranges.

At first initiation and depending on application and ambient conditions recalibration is recommended. Recurring cycles of recalibration are recommended.

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For more information, please visit www.smartGAS.eu or contact us at sales@smartgas.eu