



## Hydrogen Chloride Gas Sensor HCl/M-200

HCl Gas Sensor in Miniature Housing

### Applications

- Discontinuous Measurement
- Safety and Environmental Control
- For Portable Gas Detectors

### Measurement

|  |                             |
|--|-----------------------------|
| Operation Principle                        | 3-Electrode Electrochemical |
| Nominal Range                              | 0 - 200 ppm                 |
| Maximum Overload                           | 400 ppm                     |
| Inboard Filter                             | -                           |
| Output Signal                              | 80 ± 30 nA/ppm              |
| Resolution (Electronics dependent)         | < 1.5 ppm                   |
| T80 Response Time                          | < 60 s                      |
| Typical Baseline Range (pure air, 20°C)    | -5 ppm to 5 ppm             |
| Maximum Zero Shift (+20°C to +40°C)        | -1.8 ppm                    |
| Repeatability                              | < 2 % of signal             |
| Output Linearity                           | Linear                      |
| Gain (Only applies to 4-Electrode sensors) | -                           |

#### **Performance data recorded at 20 – 25 °C, 30 - 50% RH, 900 - 1100 mbar**

For further information about usage of Membrapor sensors, see application note [MEM1](#). The data contained in this document is for guidance only. Membrapor AG accepts no liability for any consequential losses, injury or damage resulting from the use of this document or from any omissions or errors herein. Customers should test under their own conditions to ensure that the sensors are suitable for their own requirements.



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### Electrical

|                              |                  |
|------------------------------|------------------|
| Rec. Load Resistor           | 10 - 33 $\Omega$ |
| Bias (V_Sens-V_Ref)          | not recommended  |
| Conformity to RoHS directive | RoHS Compliance  |

### Environmental

|                               |                                |
|-------------------------------|--------------------------------|
| Relative Humidity Range       | 15 % to 90 % RH non-condensing |
| Temperature Range             | -20 °C to 50 °C                |
| Pressure Range                | Atmospheric $\pm$ 10%          |
| Pressure Coefficient          | N.D.                           |
| Humidity Effect <sup>1)</sup> | None                           |

1) Abrupt changes in rel. Humidity causes a short-term transient signal.

### Lifetime

|  |                                 |
|--|---------------------------------|
| Expected Operation Life                | 2 years in air                  |
| Expected Long Term Output Drift in air | < 2 % signal loss per month     |
| Filter Life                            |                                 |
| Storage Life                           | 6 months in container           |
| Rec. Storage Temperature               | 5°C - 20°C                      |
| Warranty Period                        | 12 months from date of dispatch |

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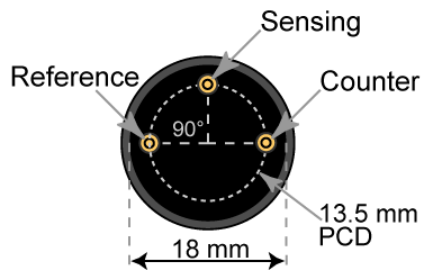
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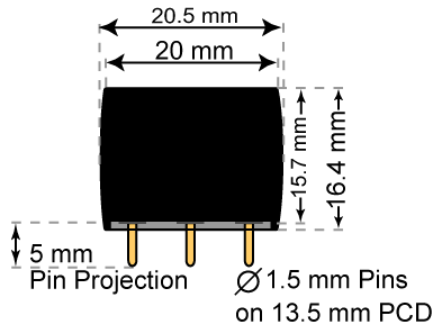
### Hydrogen Chloride Gas Sensor HCl/M-200

#### Miniature-Size Outline Dimensions

BOTTOM VIEW



SIDE VIEW



± 0.10 mm

#### Mechanical

|                  |               |
|------------------|---------------|
| Weight           | 5.5 g         |
| Orientation      | Any           |
| Housing material | Polycarbonate |

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### Cross Sensitivity Data

The table below does not claim to be complete. Interfering gases should not be used for calibration. Please contact Membrapor AG for further support regarding cross sensitivities.

| Interfering Gas                            | Concentration [ppm] | Reading [ppm] |
|--|---------------------|---------------|
| C <sub>2</sub> H <sub>4</sub>              | 100                 | 0             |
| Cl <sub>2</sub>                            | 20                  | < 0.5         |
| CO   | 1000                | 0             |
| Ethanol (C <sub>2</sub> H <sub>5</sub> OH) | 30                  | < 0.3         |
| H <sub>2</sub> S                           | 20                  | < 40          |
| HBr  | 200                 | 100           |
| NO   | 25                  | 0             |
| NO <sub>2</sub>                            | 20                  | -6            |
| SO <sub>2</sub>                            | 100                 | 0             |

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