



## Carbon Monoxide Gas Sensor CO/CF-2000-4E

CO Gas Sensor in Compact Housing

### Applications

- Stack/ Flue Gas Monitoring
- Emission Monitoring
- H<sub>2</sub>-Compensated CO Measurement

### Measurement

|  |                             |
|--|-----------------------------|
| Operation Principle                        | 4-Electrode Electrochemical |
| Nominal Range                              | 0 - 2000 ppm                |
| Maximum Overload                           | 4000 ppm                    |
| Inboard Filter                             | To remove acidic gases      |
| Output Signal                              | 75 ± 25 nA/ppm              |
| Resolution (Electronics dependent)         | < 1 ppm                     |
| T <sub>90</sub> Response Time              | < 40 s                      |
| Typical Baseline Range (pure air, 20°C)    | -18 ppm to 8 ppm            |
| Maximum Zero Shift (+20°C to +40°C)        | 4 ppm                       |
| Repeatability                              | < 2 % of signal             |
| Output Linearity                           | Linear                      |
| Gain (Only applies to 4-Electrode sensors) | 0.5 - 2                     |

#### **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       | -40 °C to 50 °C                |
| Pressure Range          | Atmospheric $\pm$ 10%          |
| Pressure Coefficient    | N.D.                           |
| Humidity Effect         | None                           |

### Lifetime

|  |                                 |
|--|---------------------------------|
| Expected Operation Life                | 3 years in air                  |
| Expected Long Term Output Drift in air | < 2 % signal loss per month     |
| Filter Life                            | 200'000 ppm hours <sup>1)</sup> |
| Storage Life                           | 6 months in container           |
| Rec. Storage Temperature               | 5°C - 20°C                      |
| Warranty Period                        | 12 months from date of dispatch |

1) Gas removal based on continuous exposure to 140 ppm NOx / SO<sub>2</sub> and 5% breakthrough. Accuracy:  $\pm$  4%.

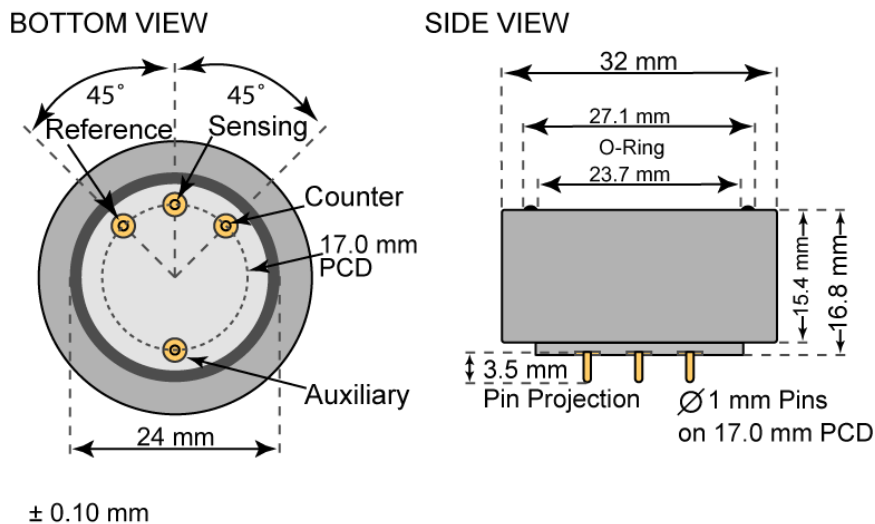
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### Carbon Monoxide Gas Sensor CO/CF-2000-4E

#### Compact-Size Outline Dimensions



#### Mechanical

|                  |               |
|------------------|---------------|
| Weight           | 13 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       | Cross-Sens. [%] |
|-----------------------|-----------------|
| Aromatic Hydrocarbons | N.D.            |
| H <sub>2</sub>        | < 1             |
| H <sub>2</sub> S      | 0               |
| NO                    | 0               |
| NO <sub>2</sub>       | 0               |
| SO <sub>2</sub>       | 0               |

### Important Application Notes

- The table contains the H<sub>2</sub> cross sensitivity after applying compensation.
- See MEM6 for detailed description of H<sub>2</sub> compensation.

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