



Ethylene Oxide Gas Sensor ETO/C-20

C₂H₄O Gas Sensor in Compact Housing

Key Features

- Highly sensitive ETO measurement

Applications

- Sterilization Processes
- Safety and Process Control

Measurement

Operation Principle	3-Electrode Electrochemical
Nominal Range	0 - 20 ppm
Maximum Overload	40 ppm
Inboard Filter	-
Output Signal	2500 ± 600 nA/ppm
Resolution (Electronics dependent)	< 0.05 ppm
T ₉₀ Response Time	< 100 s
Typical Baseline Range (pure air, 20°C)	0.1 ppm to 1.5 ppm ¹⁾
Maximum Zero Shift (+20°C to +40°C)	N.D.
Repeatability	< 2 % of signal
Output Linearity	Linear
Gain (Only applies to 4-Electrode sensors)	-

1) Fresh sensors with bias need 24 - 72 h for stabilization of the baseline.

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 Ω
Bias (V_Sens-V_Ref)	+300 mV
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
Pressure Coefficient	N.D.
Humidity Effect	None

Lifetime

Expected Operation Life	2 years in air
Expected Long Term Output Drift in air	< 2 % signal loss per month
Filter Life	not applicable
Storage Life	6 months in container
Rec. Storage Temperature	5°C - 20°C
Warranty Period	12 months from date of dispatch

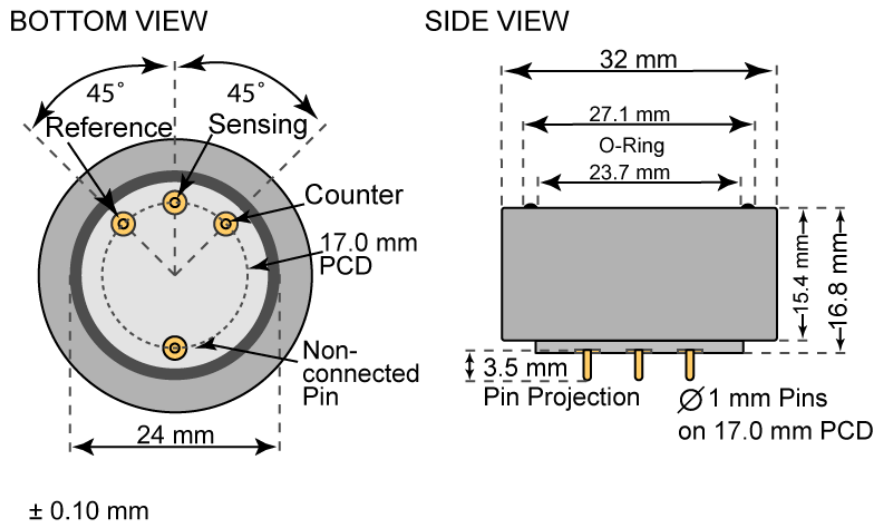
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Compact-Size Outline Dimensions



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. We recommend using the target gas for calibration purposes. Using surrogate (interfering) gases can result in inaccuracies in the final calibration. Please contact Membrapor AG for further support regarding cross sensitivities.

Interfering Gas	Concentration [ppm]	Reading [ppm]
Acetic Acid (CH ₃ COOH)	16	0
Acetone (C ₃ H ₆ O)	300	~ 2
Benzene (C ₆ H ₆)	100	~ 10
CH ₂ O	5	10
CO	100	40 ± 10
Ethanol (C ₂ H ₅ OH)	30	21
Formic Acid (HCOOH)	42	42 ± 3
H ₂	200	2
H ₂ S	20	42 ± 2
Methanol (CH ₃ OH)	80	~ 55
Methyl Mercaptan (MM, CH ₃ SH)	10	~ 12
NH ₃	80	0
NO	50	40
NO ₂	5	0
Tert-Butyl Mercaptan (TBM, (CH ₃) ₃ CSH)	10	~ 11
Toluene (C ₇ H ₈)	30	6
Xylene (C ₈ H ₁₀)	25	5

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