

### **Specification Sheet**



#### VOC/P-20

Volatile Organic Compounds Gas Sensor in Prime Housing

#### **Measurement**

Operation Principle	3-Electrode Electrochemical	
Nominal Range	0 - 20 ppm	
Maximum Overload	100 ppm	
Inboard Filter	-	
Output Signal <sup>1</sup>	Alcohols	
	Isopropanol: 1000 ± 150 nA/ppm (Reference)	
	Methanol: 1100 ± 400 nA/ppm	
	Ethanol: 1150 ± 250 nA/ppm	
	Ethanol. 1100 ± 200 1/7 (ppm	
	Aldehydes and Ketones	
	Formaldehyde: 4000 ± 500 nA/ppm	
	Acetone: 350 ± 200 nA/ppm	
	Aromatic Hydrocarbons	
	Benzene: 500 ± 300 nA/ppm	
	Toluene: 170 ± 50 nA/ppm	
	Xylene (isomeric mix): 100 ± 30 nA/ppm	
	Organic acids	
	Acetic acid: 30 ± 15 nA/ppm	
	Formic acid: 1500 ± 200 nA/ppm	
	1 offilio adia. 1000 ± 200 fil (ppi)	
	<u>Unsaturated Hydrocarbons</u>	
	Ethylene: 1800 ± 200 nA/ppm	
Resolution (Electronics dependent)	< 0.1 ppm	
T90 Response Time	< 40 s (Reference)	
Typical Baseline Range (pure air, 20°C)	0.1 ppm to 1.5 ppm <sup>2</sup>	
Maximum Zero Shift (+20°C to +40°C)	N.D.	
Repeatibility	< 2 % of signal	
Output Linearity	Linear	
Gain	-	

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Performance data: 20 - 25°C, 50% RH, 1013 mbar

For further information about usage of Membrapor sensors, see application note <u>MEM1</u>. 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.

<sup>1</sup> These output signal values were recorded at a bias voltage of + 300 mV between sensing and reference electrode. Further VOCs are listed in the cross sensitivity data table.

<sup>2</sup> Important Note: Fresh sensors with bias need 24-72 h for stabilization of the baseline.



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#### **Electrical**

Rec. Load Resistor	10 Ohm
Bias (V_Sens-V_Ref)	+ 300 mV (Reference)
	Variable, see MEM 9

Conformity to RoHS directive RoHS Compliance

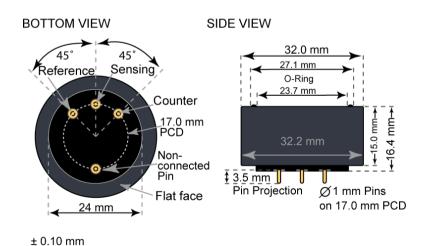
#### **Environmental**

Relative Humidity Range	15 % to 90 % R.H. non-condensing
Temperature Range	-40 °C to 50 °C
Pressure Range	Atmospheric ± 10%
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	-
Storage Life	6 months in container
Rec. Storage Temperature	5°C - 20°C
Warranty Period	12 months from date of dispatch

#### **Prime-Size Outline Dimensions**



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#### Mechanical

Weight 12 g Position Sensitivity None

### **Applications**

Emission Monitoring Safety and Environmental Control

### **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 sensitivites.

Interfering Gas	Concentration [ppm]	Reading Isopropanol [ppm]
CO	50	40
$H_2$	200	0
H₂S	20	117
$NO_2$	20	< 6
14% NaOCI	~20	0
Cleaning gasoline	35	0
2-Butanone	21	0
Fluorobenzene	25	0
Commercial Vinegar <sup>3</sup>	~50	92

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<sup>3</sup> Gasphase concentration estimated according to Henry's law.