

## SPECIFICATION SHEET FOR OXYGEN SENSOR TYPE O2/M-100

### PERFORMANCE CHARACTERISTICS

Nominal Range	0 – 30%
Maximum Overload	100%
Expected Operation Life <sup>(1)</sup>	>3 years in air
Output Signal	1.6 to 2.6 mA in air
Sensitivity	100 ± 24 µA / %
Resolution	0.05%
t <sub>90</sub> Response Time	< 10 sec
Temperature Range	- 40 °C to + 50 °C
Temperature Coefficient	0.3% signal / °C
Pressure Range	Atmospheric ± 20%
Pressure Coefficient	No data
Relative Humidity Range	15% to 90% R.H. non-condensing
Baseline in pure Nitrogen	0.1% equivalent
Expected Long Term Output Drift	< ±4% signal / 3 years
Recommended Load Resistor	10 Ohm
Bias Voltage	-600 mV
Repeatability	< 2% of signal
Output Linearity	Linear <sup>(2)</sup>

<sup>(1)</sup> The lifetime is **not** limited by the consumption of internal components

<sup>(2)</sup> Can be considered linear in many cases (see next page).  
The output signal follows the relationship:  $S = K \ln(1/(1-C))$ , which is a consequence of the capillary-type diffusion (normal diffusion).

Performance data conditions:  
20 °C, 50% RH and 1013 mbar, using MEMBRAPOR's PCB for Oxygen-Sensor

Further information can be found in the document *MEM2 Application Note Oxygen Sensor*.

### APPLICATIONS

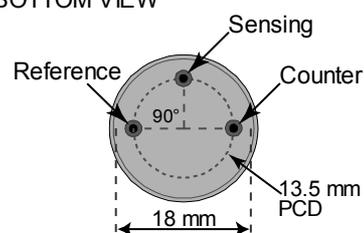
Safety and Environmental Control  
For Portable Gas Detectors  
Biogas applications (see *MEM3 Background Gas Compatibility*)

### PHYSICAL CHARACTERISTICS

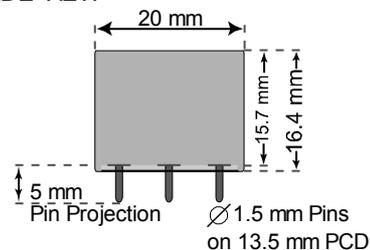
Weight	~ 5.4 g
Position Sensitivity	None
Storage Life	Six months in container
Recommended Storage Temperature	5 °C – 20 °C
Warranty Period	12 months from date of dispatch
Conformity to RoHS directive	RoHS compliance

### Miniature-Size Outline Dimensions

#### BOTTOM VIEW



#### SIDE VIEW

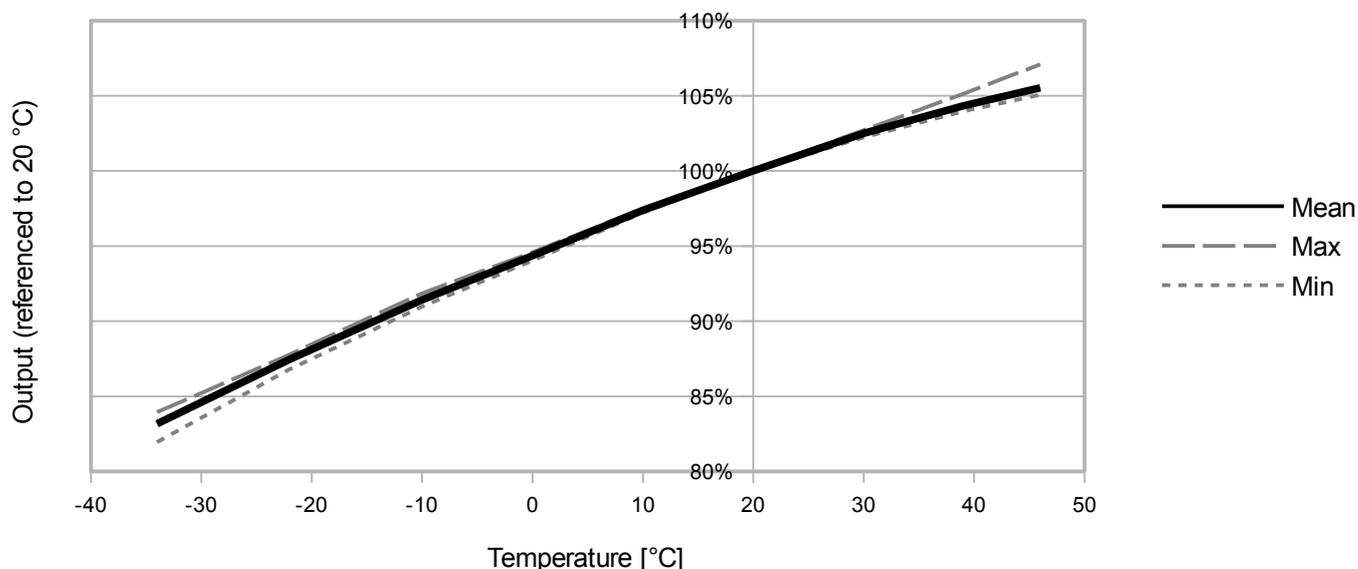


## SPECIFICATION SHEET FOR OXYGEN SENSOR TYPE O2/M-100

### TEMPERATURE DEPENDENCE

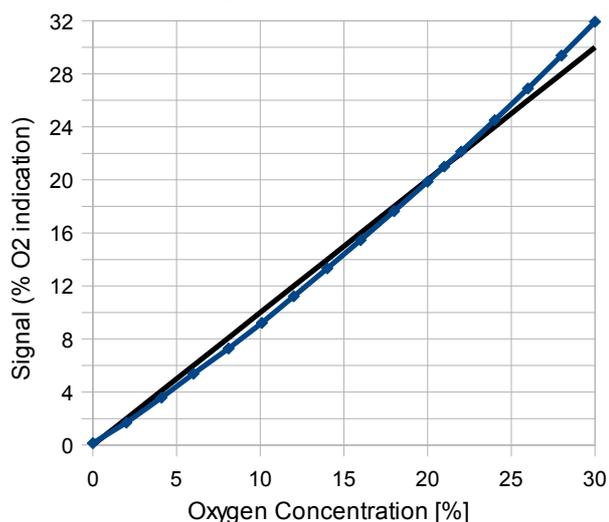
The output of an electrochemical sensor varies with temperature. The graph below shows the variation in output with temperature for this type of sensor. The result is shown in the graph as a mean for a batch of sensors, along with observed extreme values. The sensitivity dependence is expressed as a percentage of the signal at 20 °C.

Sensitivity Temperature Dependence

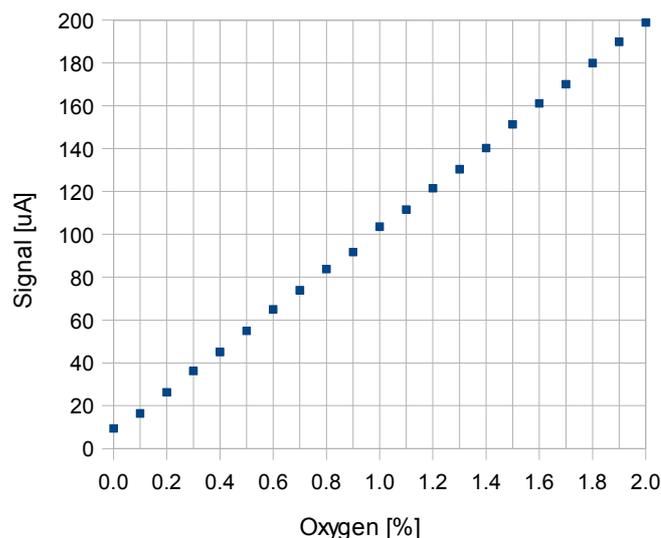


### LINEARITY AND RESOLUTION

Output Signal vs Concentration



Resolution



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