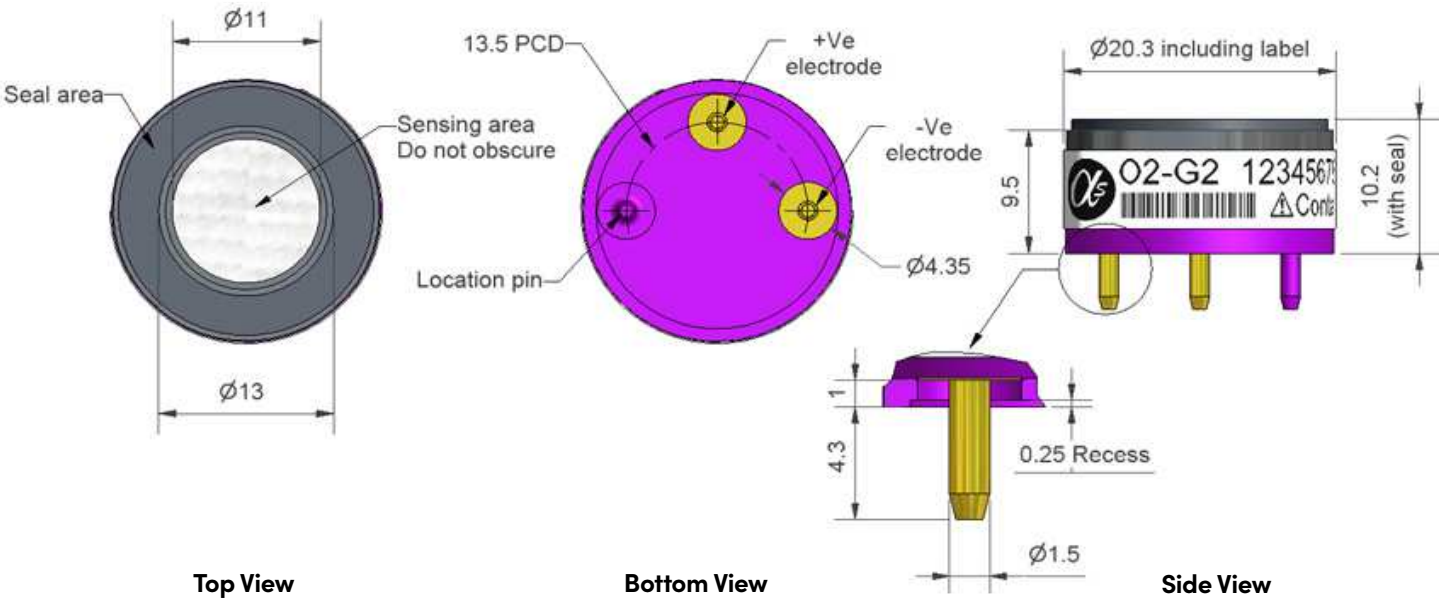


O2-G2 Oxygen Sensor – Miniature size

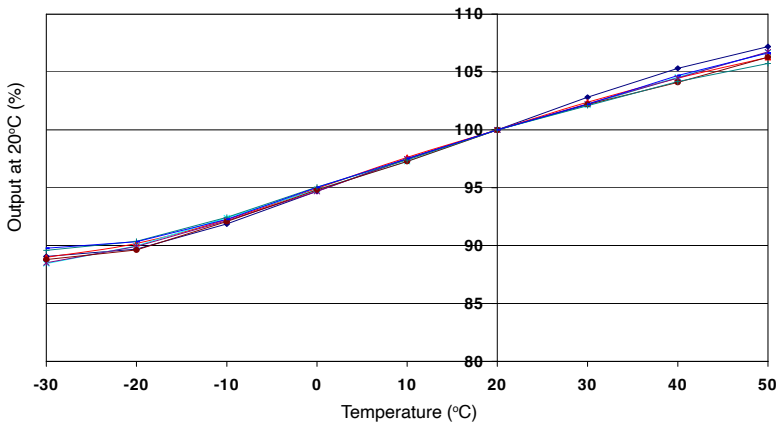


Dimensions are in millimetres ( $\pm 0.15$  mm).

Performance	Output	$\mu\text{A}$ @ 22°C, 20.9% O <sub>2</sub>	30 to 42
	Response time	t <sub>90</sub> (s) from 20.9% to 0% O <sub>2</sub> (47Ω)	< 20
	Zero current	$\mu\text{A}$ @ 99.99% N <sub>2</sub> , 22°C	< 2.5
Lifetime	Output drift	% change in output @ 3 months	< 2
	Operating life	Months until 85% original output in 20.9% O <sub>2</sub>	> 24
Environmental	Humidity sensitivity	% O <sub>2</sub> change: 0% to 95% rh @ 40°C	< 0.7
	Pressure sensitivity	(% change of output)/(% change of pressure) @ 20kPa	< 0.1
	CO <sub>2</sub> sensitivity	%(change in output)/% CO <sub>2</sub> @ 5% CO <sub>2</sub>	< 0.1
	Output at -20°C	% output/output at 20°C in 20.9% O <sub>2</sub>	87 to 93
	Output at +50°C	% output/output at 20°C in 20.9% O <sub>2</sub>	103 to 107
Key Specifications	Temperature range	°C	-30 to 55
	Pressure range	kPa	80 to 120
	Humidity range	% rh non-condensing (0 to 99% rh short term)	5 to 95
	Storage period	Months @ 3 to 20°C (store in sealed pot)	6
	Load resistor	Ω (recommended)	47 to 100
	Weight	g	< 7



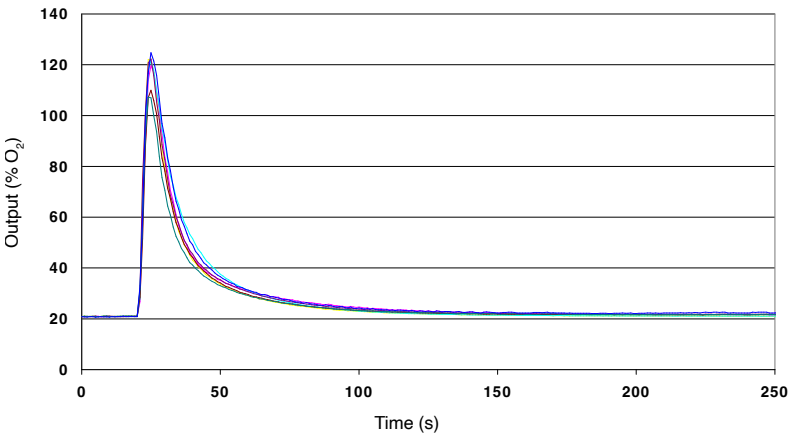
Figure 1 Temperature Dependence in Air



This graph shows the variation in sensitivity caused by changes in temperature.

All capillary oxygen sensors will show some variation in signal output with temperature and the typical response of an O2-G2 is shown.

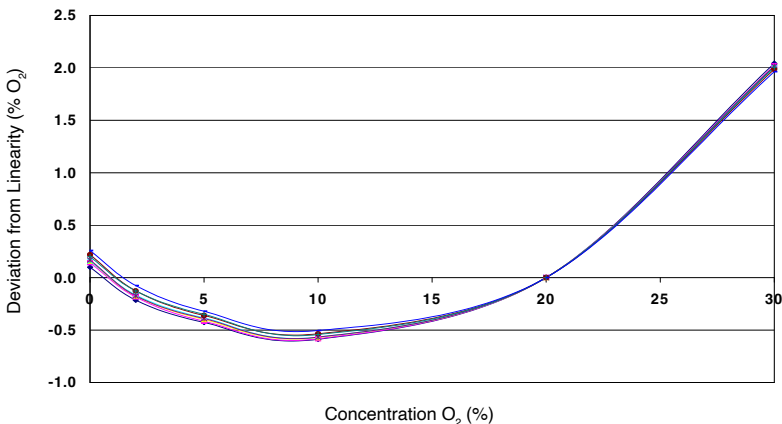
Figure 2 Pressure Step Performance



Step changes in pressure can cause a temporary signal transient. Positive pressure gives an output signal increase whilst negative pressure causes the output signal to decrease.

Typical transient response for an O2-G2 sensor exposed to a 10 kPa pressure pulse is shown.

Figure 3 Linearity



Mass flow oxygen sensors generate a non-linear current with increasing oxygen concentration:  $current = k * \log(1/(1-C))$ .

When plotted on a linear graph, figure 3 shows that the non-linearity is very repeatable and can be corrected in software to the required accuracy.