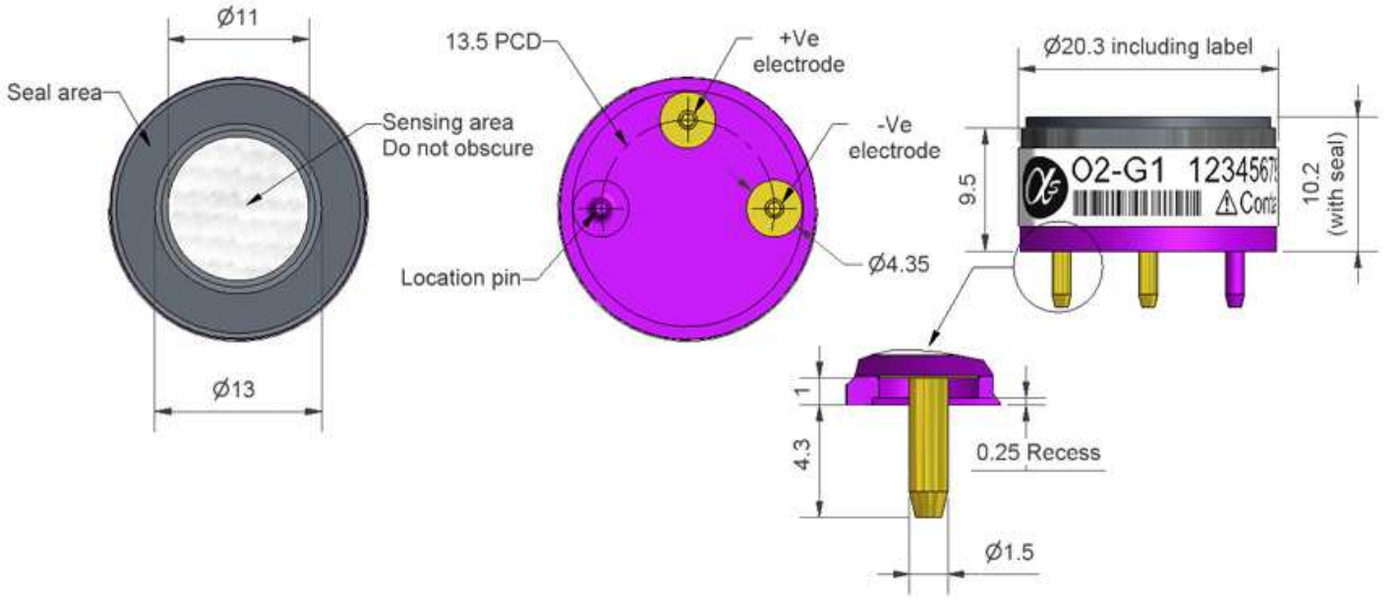
O2-G1 Oxygen Sensor – Miniature size



Top View **Bottom View** **Side View**

Dimensions are in millimetres (± 0.15 mm).

Performance	Output	µA @ 22°C, 20.9% O_2	65 to 85
	Response time	t90 (s) from 20.9% to 0% O_2 (47W load resistor)	< 18
	Zero current	µA @ 99.999% N_2, 22°C	< 2.5
Lifetime	Output drift	% change in output @ 3 months	< 2
	Operating life	months until 85% original output in 20.9% O_2	> 12
Environmental	Humidity sensitivity	% O_2 change: 0% to 95% rh @ 40°C	< 0.7
	CO_2 sensitivity	% change in output / % CO2 @ 5% CO_2	+ 0.1
	Pressure sensitivity	(% change of output)/(% change of pressure) @ 20kPa	< 0.1
	Output at -20°C	% output/output at 20°C in 20.9% O_2	87 to 93
	Output at +50°C	% output/output at 20°C in 20.9% O_2	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 container)	6
	Load resistor	Ω (recommended)	47 to 100
	Weight	g	< 7

Figure 1 Temperature Dependence in Air

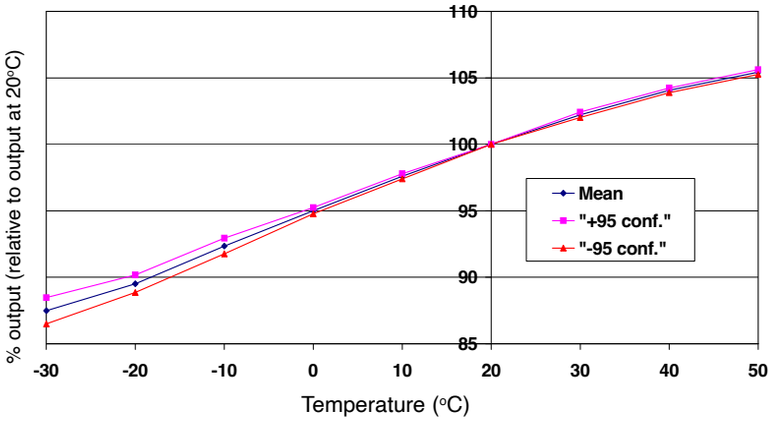


Figure 1 shows the variation of output caused by changes in temperature in 20.9% oxygen.

All capillary oxygen sensors show a change in signal with temperature, and the very repeatable 95% confidence intervals for the O2-G1 are shown.

Figure 2 Pressure Step Performance

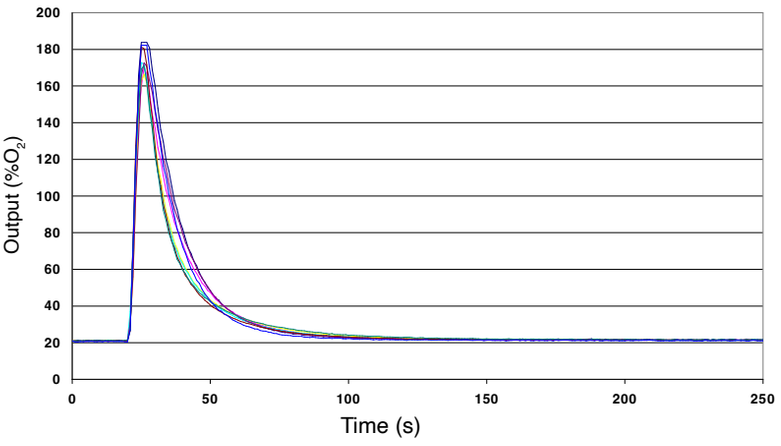


Figure 2 shows how a 25 kPa pressure step change causes a signal transient that decays reproducibly. Negative pressure changes cause a negative transient.

The small shift in final output is less than 10% of the pressure change, so 10 kPa pressure step shifts output by less than 1% (<0.2% oxygen).

Figure 3 Long-Term Stability

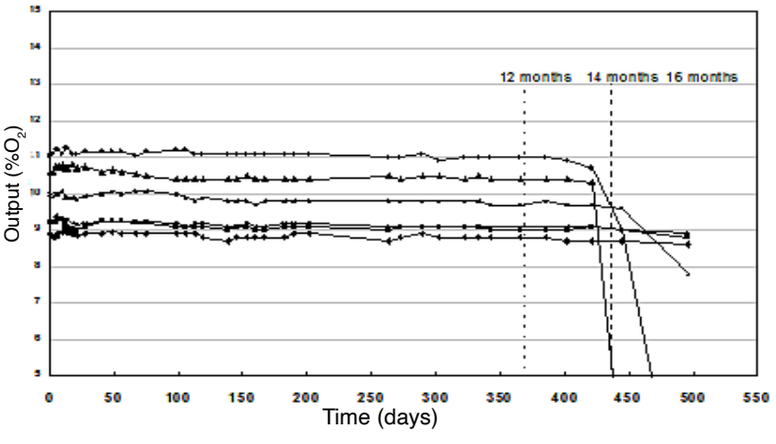


Figure 3 shows long-term stability data for the O2-G1 sensors.

All sensors show stable outputs beyond the 12-month period.