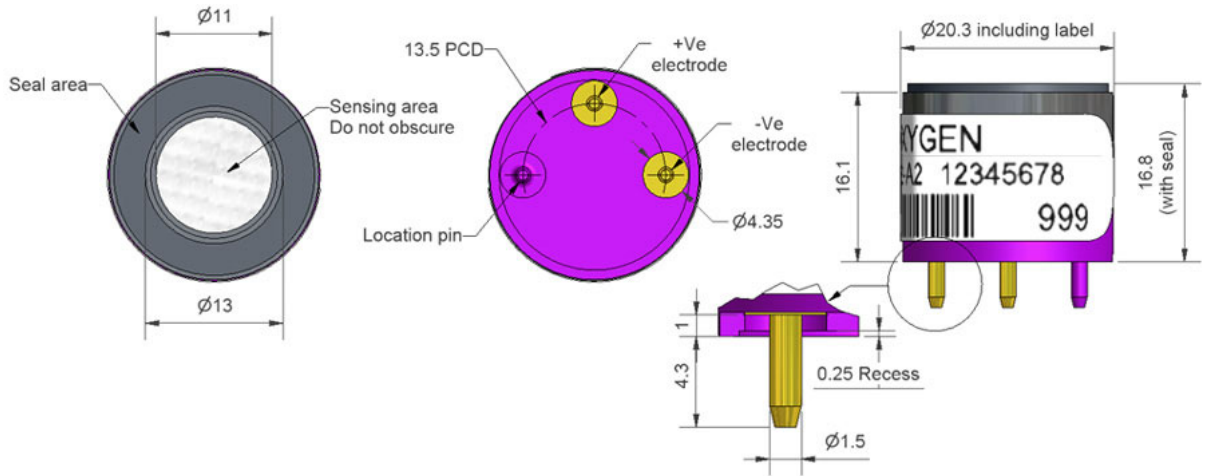




O2-A2 Oxygen Sensor



Figure 1 O2-A2 Schematic Diagram



All dimensions in millimetres (± 0.1 mm)

Top View

Bottom View

Side View

PERFORMANCE	Output	μA @ 20.9% O_2	80 to 120
	Response time	t_{90} (s) from 20.9% to 0% O_2	< 15
	Zero current	μA in N_2	< 2
	Pressure sensitivity	(% change of output)/(% change of pressure) @ 20kPa	< 0.1
	Linearity	% O_2 deviation @ 10% O_2	0.6
	Hysteresis	% O_2 change after 16 cycles: 0 to 20.9% O_2	< 0.15
	Hand aspirator	% O_2 change during aspiration (typical) response	19.5 to 22.5
	LIFETIME	Output drift	% change in output @ 3 months
Operating life		months until 85% original output of 20.9% O_2	> 24
ENVIRONMENTAL	Humidity Sensitivity	% O_2 change: 0% to 95% rh @ 40°C	< 0.7
	CO_2 sensitivity	% (change O_2 reading) / % CO_2 @ 5% CO_2	0.1
PHYSICAL DIMENSIONS	Diameter	mm (including label)	20.0
	Height	mm (including foam ring)	16.8
	Weight	g	< 16
KEY SPECIFICATIONS	Temperature range	$^{\circ}\text{C}$	-30 to 55
	Pressure range	kPa	80 to 120
	Humidity range	% rh continuous (0 to 99% rh short term)	5 to 95
	Storage period	months @ 3 to 20°C (store in sealed pot, open circuit)	6
	Load resistor	Ω (recommended)	47 to 100

NOTE: all sensors are tested at ambient environmental conditions, with 47 ohm load resistor, unless otherwise stated. As applications of use are outside our control, the information provided is given without legal responsibility. Customers should test under their own conditions, to ensure that the sensors are suitable for their own requirements.



O2-A2 Performance Data

Technical Specification

Figure 2 Output Temperature Dependence

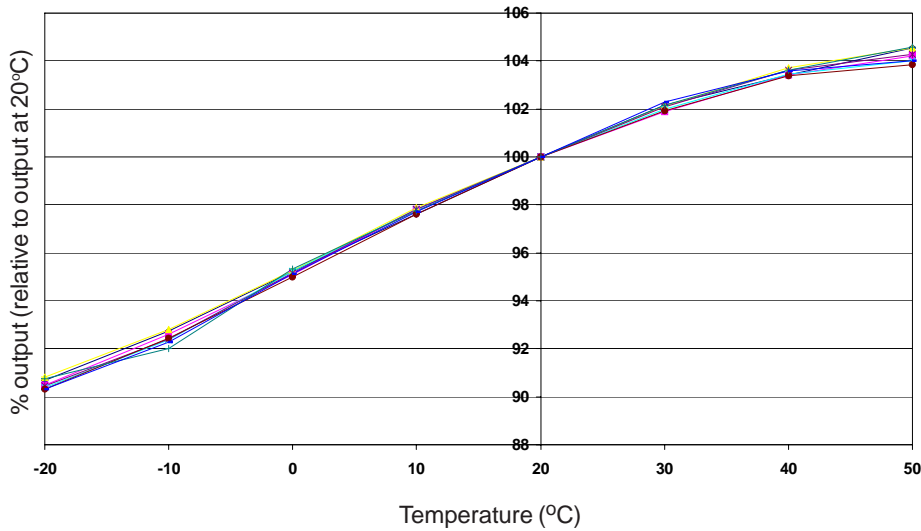
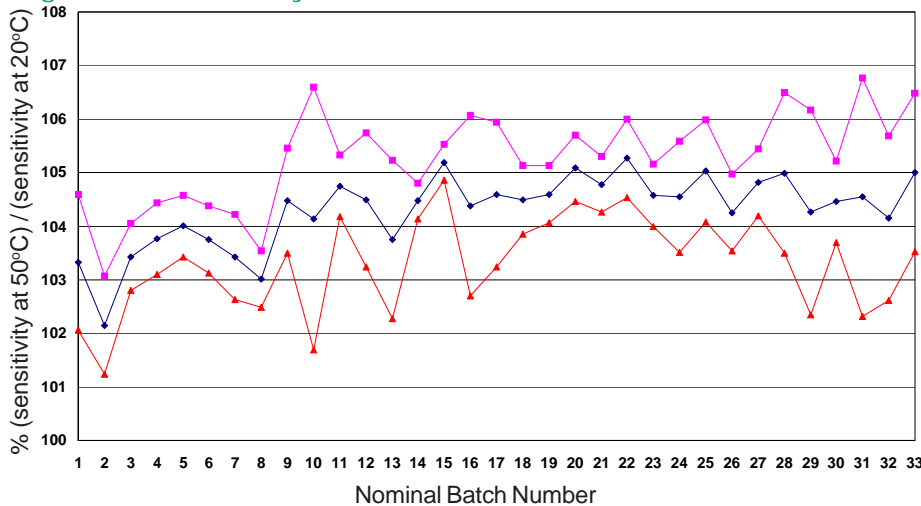


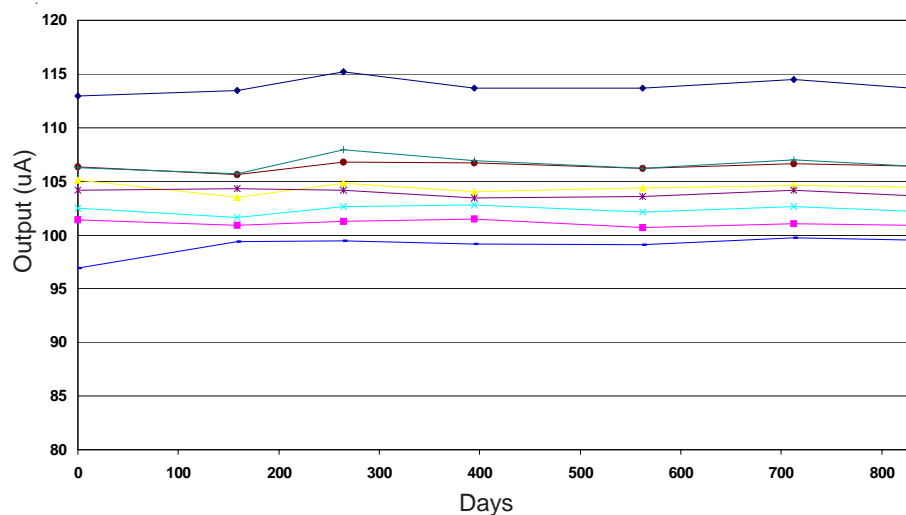
Figure 2 shows the variation in sensitivity caused by changes in temperature.

Figure 3 Sensitivity at 50°C



This plot of the mean and $\pm 95\%$ confidence intervals for 34 batches shows superior repeatability of the sensitivity dependence from batch to batch, giving confidence when setting temperature compensation in your gas detector.

Figure 4 Long Term Stability



The very stable output over the full lifetime of the O2-A2 shows that Alphasense has solved the problem of poor performance near the end of lifetime.

For further information on the performance of this sensor, on other sensors in the range or any other subject, please contact Alphasense Ltd. For Application Notes visit "www.alphasense.com".

In the interest of continued product improvement, we reserve the right to change design features and specifications without prior notification. The data contained in this document is for guidance only. Alphasense Ltd accepts no liability for any consequential losses, injury or damage resulting from the use of this document or the information contained within it.
(©ALPHASENSE LTD) Doc. Ref. TDS/O2A2/Issue 13