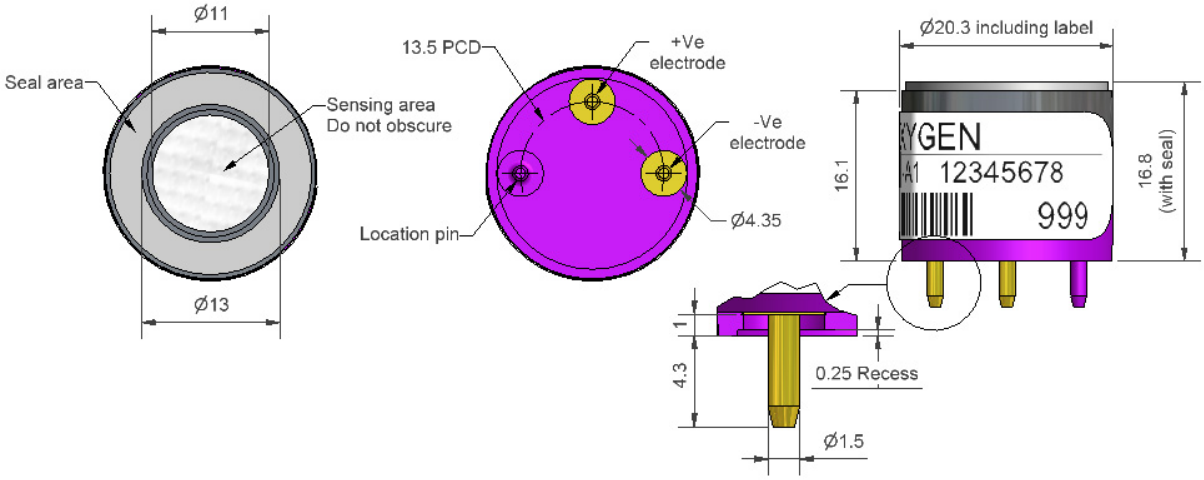
O2-A1 Oxygen Sensor

Technical Specification

Figure 1 O2-A1 Schematic Diagram



All dimensions in millimetres (± 0.1mm)

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

PERFORMANCE	Output	µA @ 20.9% O_2	200 to 240
	Response time	t90 (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 response	% O_2 change during aspiration (typical)	19.8 to 22
LIFETIME	Output drift	% change in output @ 3 months	< 1
	Operating life	months until 85% original output of 20.9% O_2	> 12
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	°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.

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O2-A1 Performance Data

Technical Specification

Figure 2 Output Temperature Dependence

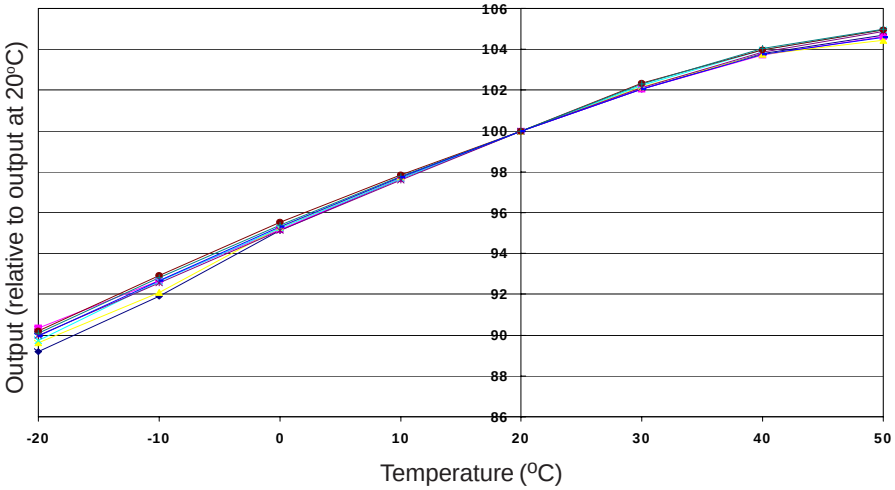
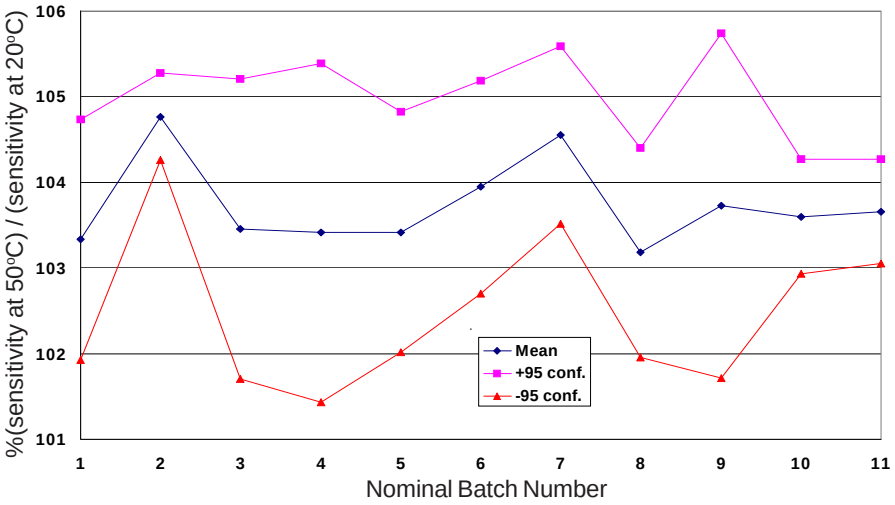


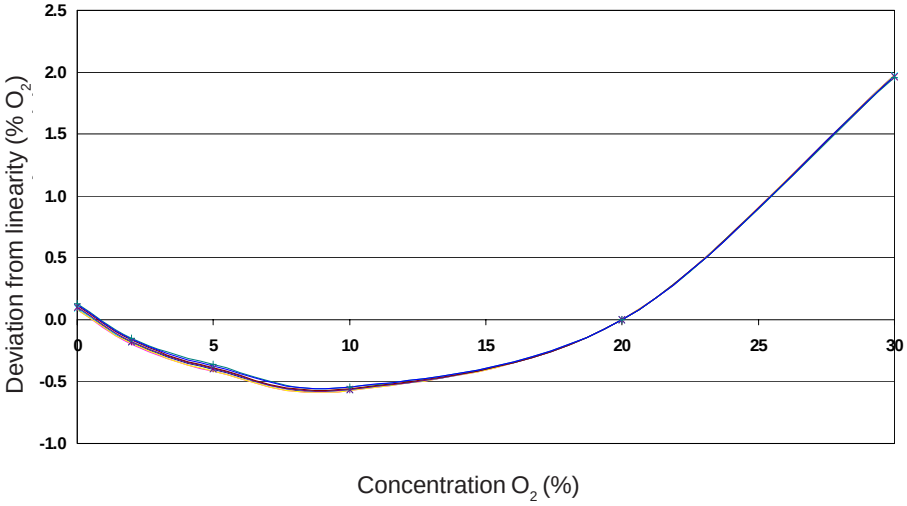
Figure 2 shows the variation in sensitivity caused by changes in temperature.

Figure 3 Temperature Dependence Repeatability



This plot of the mean and ±95% confidence intervals for 11 batches shows superior repeatability of the sensitivity dependence from batch to batch, giving confidence when setting temperature compensation in your gas detector.

Figure 4 Non-Linearity



Non-linearity in Alphasense oxygen sensors is a physical effect, and so is very repeatable, as this graph shows, allowing reliable software correction for non-linearity.

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".