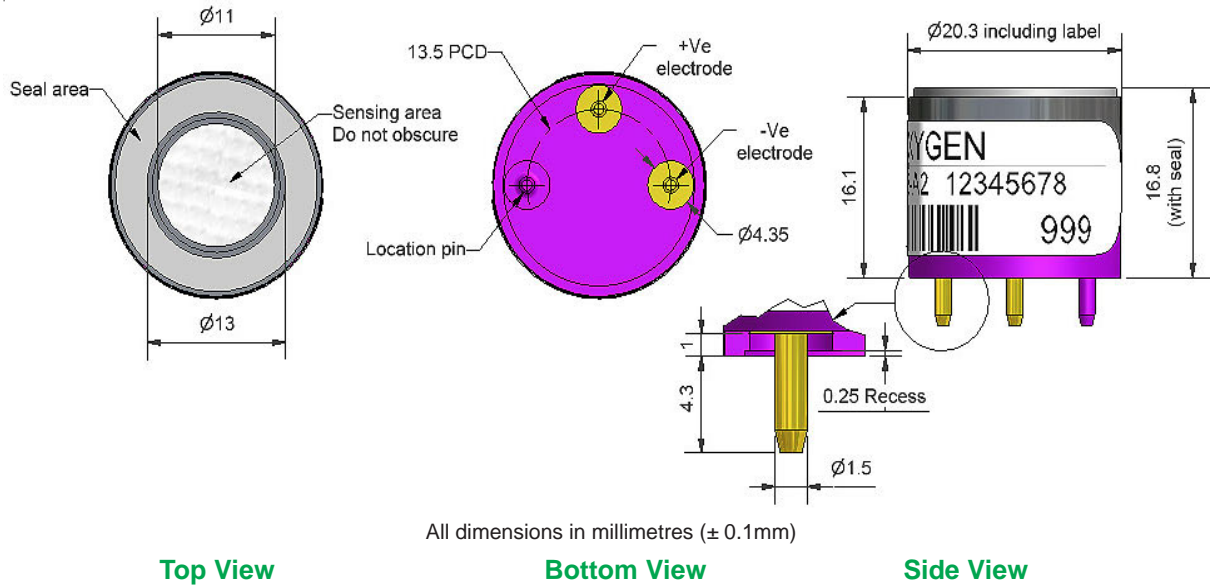




# O2-A2 Oxygen Sensor



Figure 1 O2-A2 Schematic Diagram



# Technical Specification

<b>PERFORMANCE</b>	Output	$\mu\text{A}$ @ 20.9% $\text{O}_2$	80 to 120
	Response time	$t_{90}$ (s) from 20.9% to 0% $\text{O}_2$	< 15
	Zero current	$\mu\text{A}$ in $\text{N}_2$	< 2.5
	Linearity	% $\text{O}_2$ deviation @ 10% $\text{O}_2$	0.6
<b>LIFETIME</b>	Output drift	% change in output @ 3 months	< 1
	Operating life	months until 85% original output of 20.9% $\text{O}_2$	> 24
<b>ENVIRONMENTAL</b>	Humidity Sensitivity	% $\text{O}_2$ change: 0% to 95% rh @ 40°C	< 0.7
	$\text{CO}_2$ sensitivity	% (change $\text{O}_2$ reading) / % $\text{CO}_2$ @ 5% $\text{CO}_2$	0.1
	Pressure sensitivity	(% change of output)/(% change of pressure) @ 20kPa	< 0.1
<b>KEY SPECIFICATIONS</b>	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	$\Omega$ (recommended)	47 to 100
	Diameter	mm (including label)	20.0
	Height	mm (including foam ring)	16.8
	Weight	g	< 16



At the end of the product's life, do not dispose of any electronic sensor, component or instrument in the domestic waste, but contact the instrument manufacturer, Alphasense or its distributor for disposal instructions.

**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

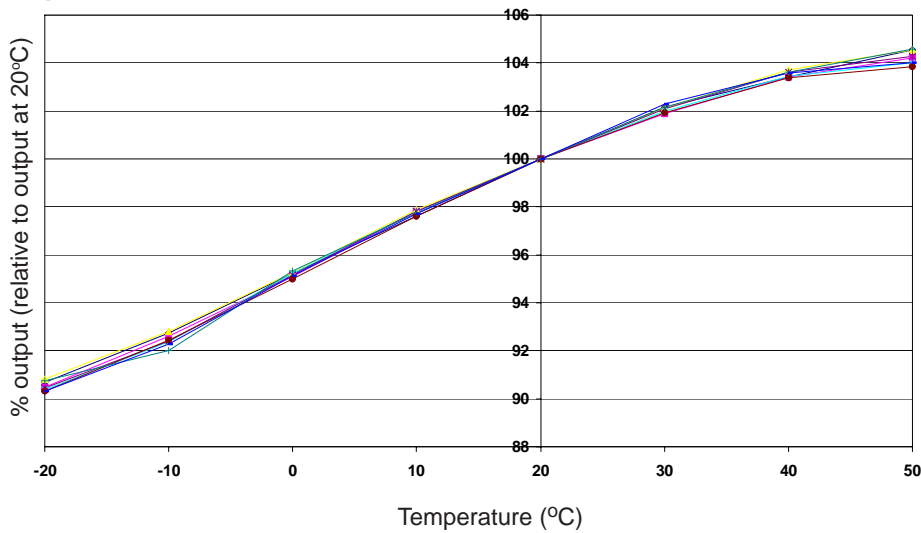
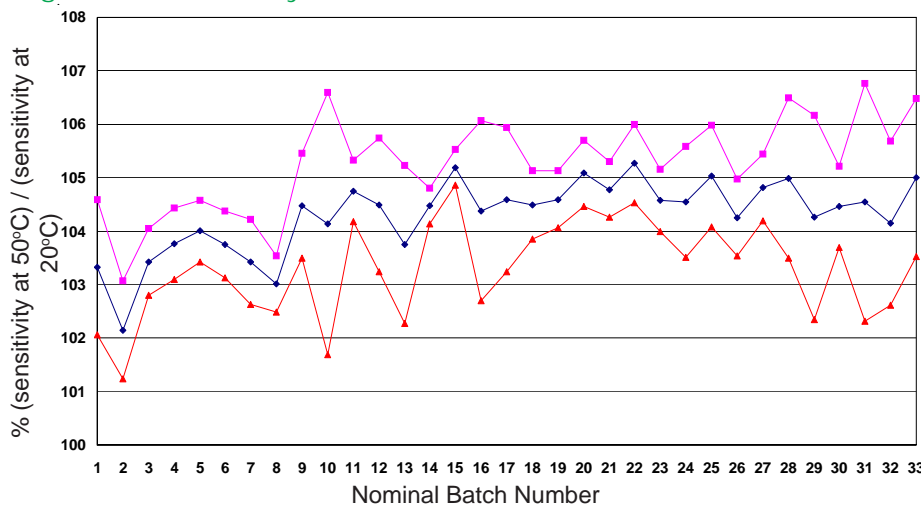


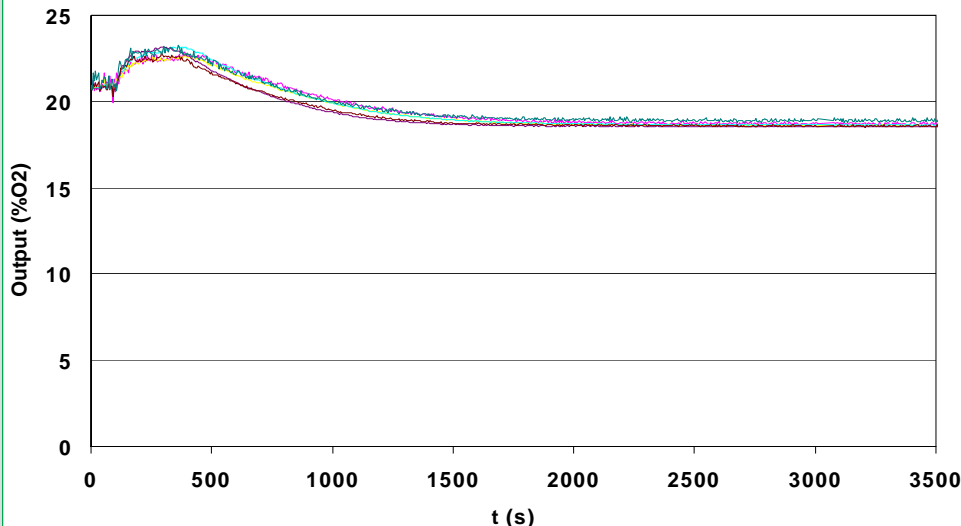
Figure 2 shows the variation in sensitivity caused by changes in temperature.

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 Thermal Transient Performance



Alphasense oxygen sensors show good performance throughout their 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](http://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. (©ALPHASENSE LTD) Doc. Ref. O2A2/NOV09*