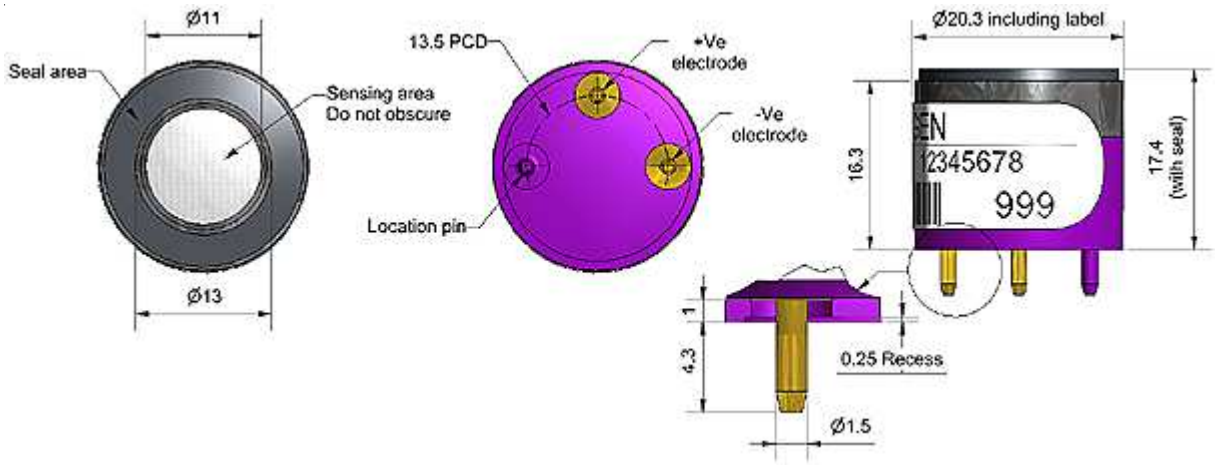
O2-W2 Oxygen Sensor

Technical Specification

Figure 1 O2-W2 Schematic Diagram



All dimensions in millimetres (± 0.15mm)

Top View Bottom View Side View

PERFORMANCE

Output	µA @ 20.9% O_2	80 to 120
Response time	t90 (s) from 20.9% to 0% O_2	< 15
Zero current	µA in N_2	< 2.5
Linearity	% O_2 deviation @ 10% O_2	0.6

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
Pressure sensitivity	(% change of output)/(% change of pressure) @ 20kPa	< 0.1

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, open circuit)	6
Load resistor	Ω (recommended)	47 to 100
Diameter	mm (including label)	20.0
Height	mm (including foam ring)	17.4
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.

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O2-W2 Performance Data

Technical Specification

Figure 2 Output Temperature Dependence

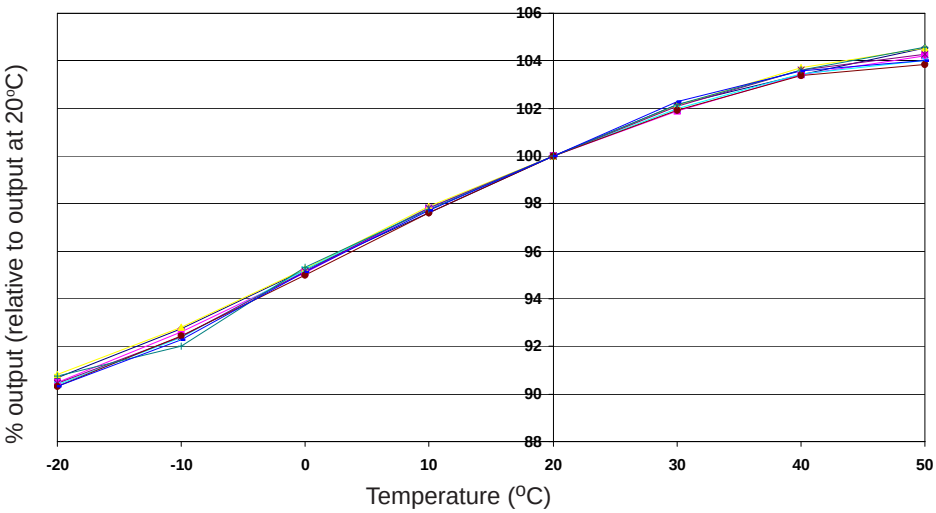
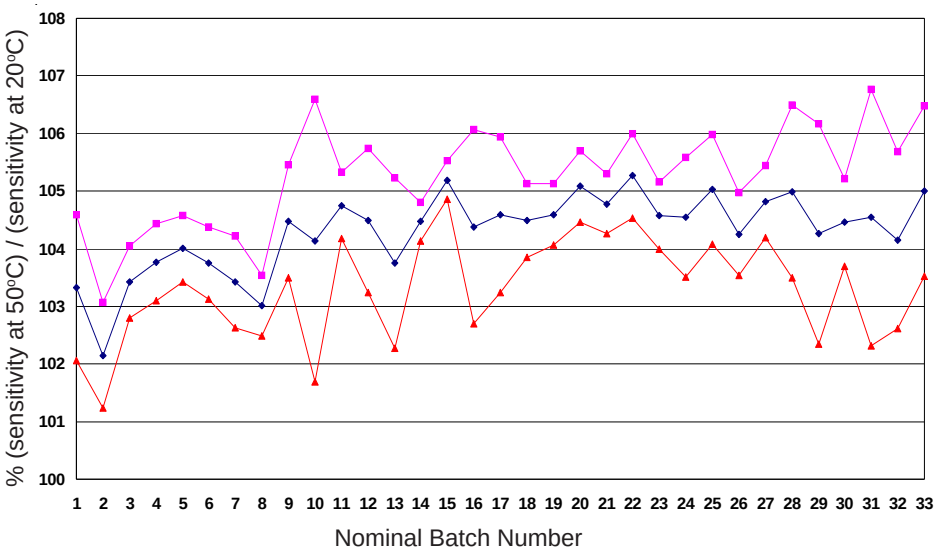


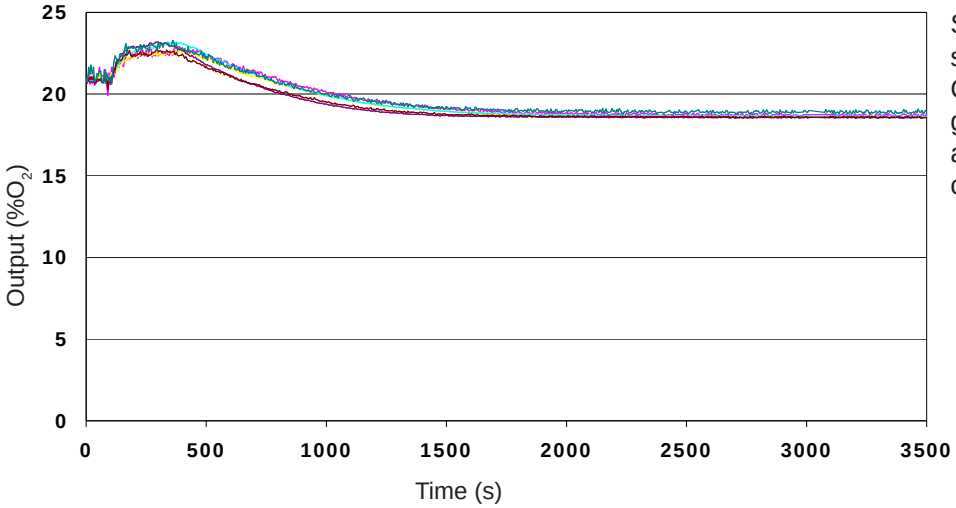
Figure 2 shows the variation in sensitivity caused by changes in temperature. Temperature dependence is very repeatable.

Figure 3 Sensitivity at 50°C



This plot of the mean and ±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



Sensors were thermally shocked from 20°C to -30°C. Consistant manufacture and good design ensure that there are no thermal spikes which can cause an alarm.

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".