

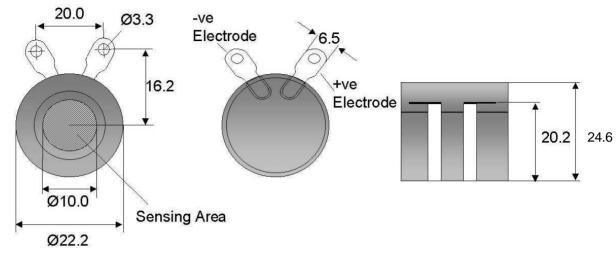
Specification

echnica.

O2-E2 Oxygen Sensor



Figure 1 02-E2 Schematic Diagram



All dimensions in millimetres (± 0.1mm)

Top View Bottom View Side View

PERFORMANCE	Output Response time Zero current Pressure sensitivity Linearity Hysteresis Hand aspirator response	μ A @ 20.9% O $_2$ t90 (s) from 20.9% to 0% O $_2$ μ A in N $_2$ (% change of output)/(% change of pressure) @ 20kPa % O $_2$ deviation @ 30% O $_2$ % O $_2$ change after 16 cycles: 0 to 20.9% O $_2$ % O $_2$ change during aspiration (typical)	260 to 315 < 15 < 5 < 0.1 < 0.6 < 0.2 20 to 21.5
LIFETIME	Output drift Operating life	% change in output @ 3 months months until 85% original output of 20.9% $\rm O_2$	< 1 > 24
ENVIRONMENTAL	Humidity sensitivity CO ₂ sensitivity	% O ₂ change: 0% to 95% rh @ 40°C % change in output / % CO ₂ @ 5% CO ₂	< 0.7 0.1
PHYSICAL DIMENSIONS	Diameter Height Weight	mm (including label) mm (excluding foam ring) g	22.2 24.6 < 33
KEY SPECIFICATIONS	Temperature range Pressure range Humidity range Storage period Load resistor	$^{\circ}\text{C}$ kPa $^{\circ}\text{C}$ rh continuous (0 to 99% rh short term) months @ 3 to 20°C (store in sealed pot, unshorted Ω (recommended)	-30 to 55 80 to 120 5 to 95 6 47 to 100

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

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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, requirements.



O2-E2 Performance Data

Figure 2 Sensitivity Temperature Dependence

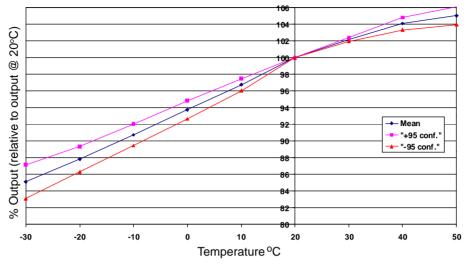
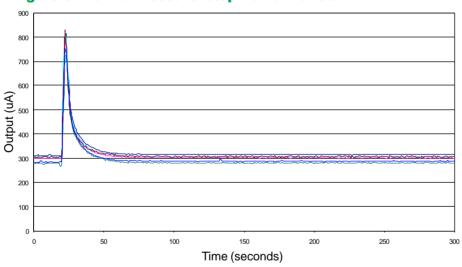


Figure 2 shows the variation in sensitivity caused by changes in temperature.

See Application Note: AAN 110 on our website

Figure 3 10kPa Pressure Step Performance



Step changes in pressure can cause a temporary signal transient. Positive pressure gives an output signal increase whilst negative pressure causes the output signal to decrease.

This repeatability was tested on sensors six months old.

Figure 4 Response Profile

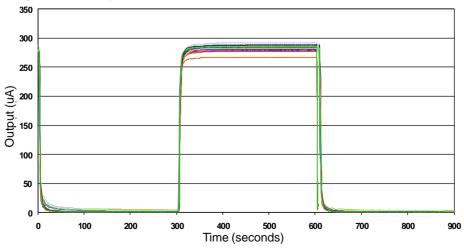


Figure 4 shows the time taken for a typical O2-E2 sensor to reach 90% of its maximum output. This is termed the t_{90} response time and for these sensors is less than 10 seconds.

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".

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