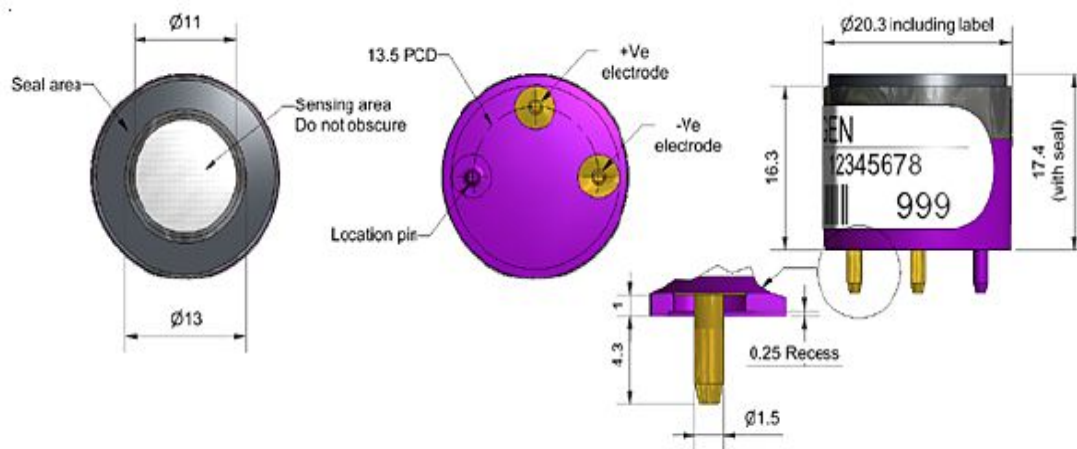


O2-A1 Oxygen Sensor



Figure 1 Schematic Diagram of O2-A1



All dimensions in millimetres (± 0.15 mm)

vertical view

upward view

lateral view

function

output	Output(μ A) in 20.9%O ₂	190~240
reaction time	From 20.9% to 0%O ₂ t ₉₀ time (s)	< 15
zero current	Output in N ₂ Central (μ A)	< 2.5
degree of linearity	10%O ₂ deviation percentage of oxygen	< 0.6

life span

Output drift	Change percentage over 3 months	< 1
working life	Output down to 20.9% Number of months _o original output 85%	> 12

environment

Humidity sensitivity	Percentage of oxygen variation: 0~95% RH, 40°C	< 0.7
CO ₂ sensitivity	5% CO ₂ , percentage change in oxygen reading/CO ₂	0.1
Pressure sensitivity	concentration 20kPa, percentage change in output/pressure change percentage	< 0.1

key parameter

temperature range	°C	-30~55
pressure limit	kPa	80~120
Humidity range	Continuous relative humidity percentage (0~99%RH in the short term)	5~95
Storage period	Number of months for preservation from 3 to 20°C (must be preserved in a sealed tank, open circuit)	6
load resistance	Ω (recommend)	47~100
diameter	mm (including labels)	20.0
altitude	mm (including foam gasket)	17.4
weight	g	< 16

Figure 2. Temperature Characteristics of the Sensor in Air

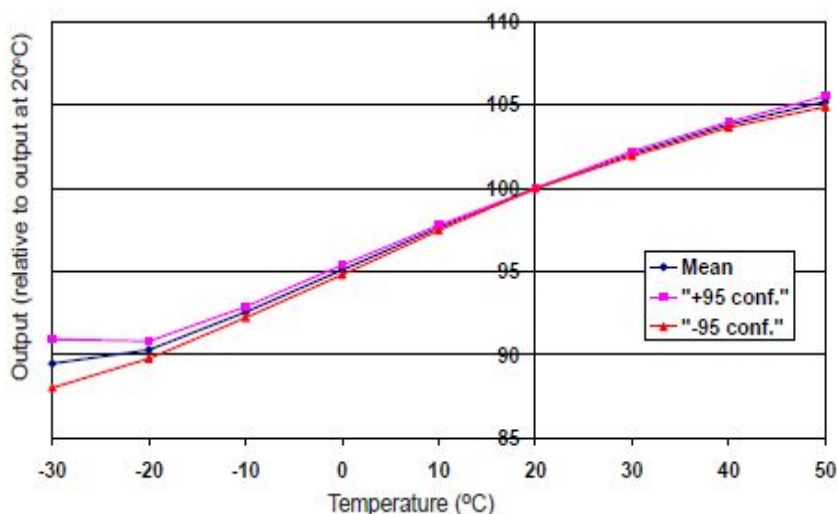
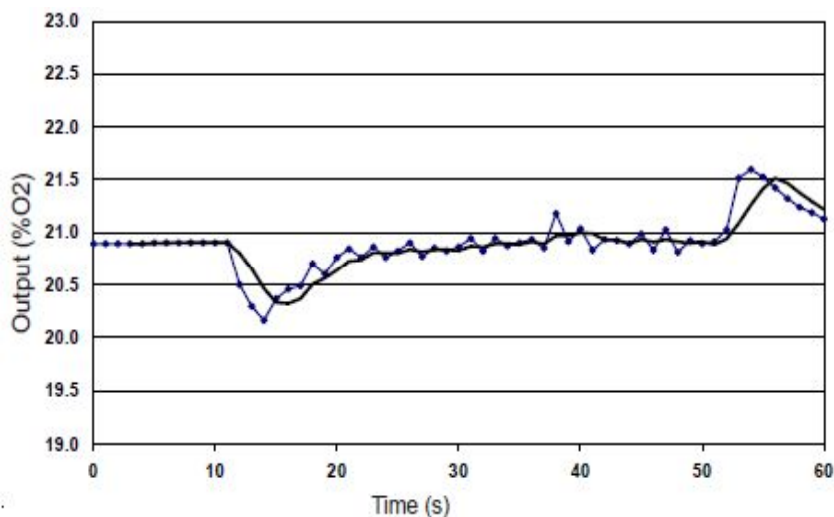


Figure 2 shows the sensor output change caused by temperature changes in clean air.

This data was collected from a typical batch sensor.

Figure 2 shows the average value and $\pm 95\%$ confidence interval of the sensor output (see reference 20°C).

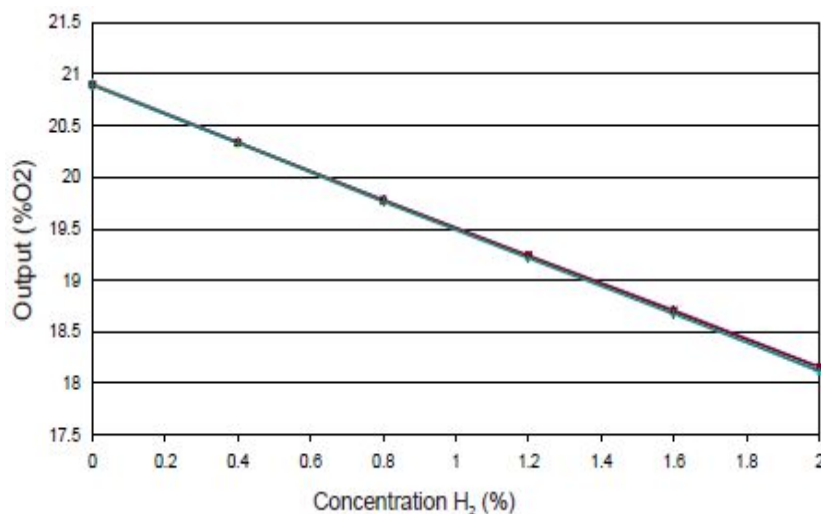
Figure 3 Inhaling Transient



Many gas detectors use a pump or manual suction for remote sampling. But the pressure transient caused by the pump can cause false alarms.

Alphasense's oxygen sensor 100% pressure transient tested.

Figure 4 Reaction to Hydrogen



Hydrogen causes the oxygen sensor output to drop by 6.5%.

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