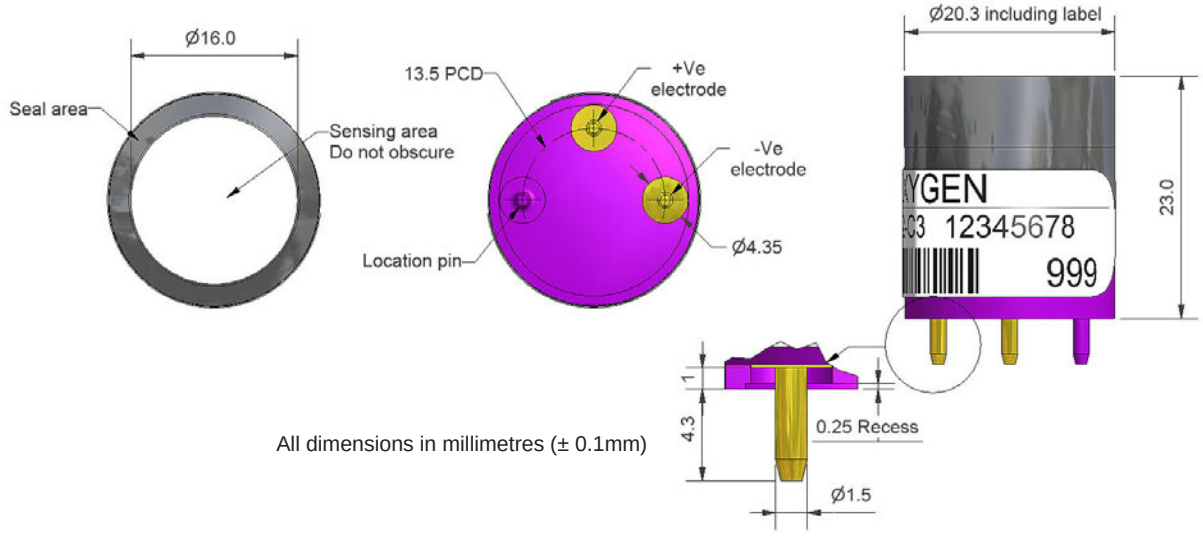
O2-C3 Oxygen Sensor

PATENT PENDING

Technical Specification

Figure 1 O2-C3 Schematic Diagram



All dimensions in millimetres (± 0.1mm)

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

Our (patent pending) O2-C3 includes protection from the rough environment of flue gases, necessary for long sensor lifetime.

PERFORMANCE			
	Output	µA @ 20.9% O_2	65 to 85
	Response time	t_{90} (s) from 20.9% to 0% O_2	< 45
	Zero current	µA in N_2	< 2
	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	> 36
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 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
	Weight	g	<18

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.

Technical Specification

O2-C3 Performance Data

Figure 2 Output Temperature Dependence

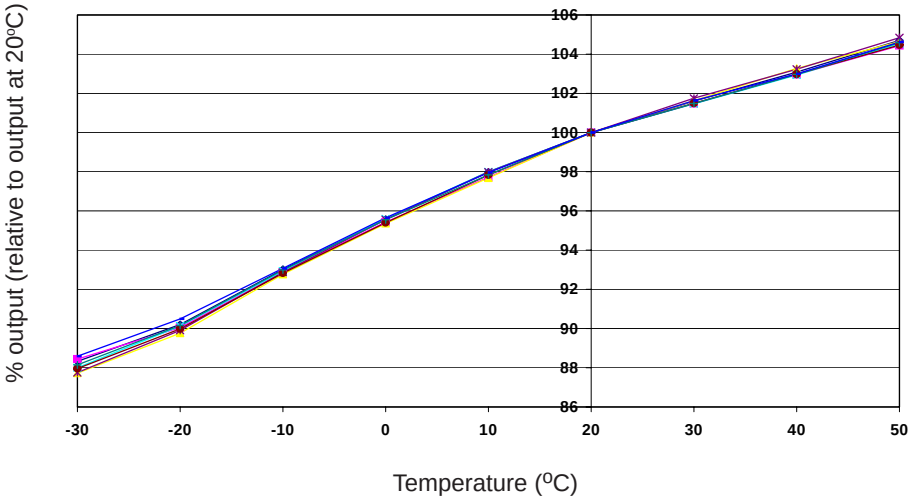
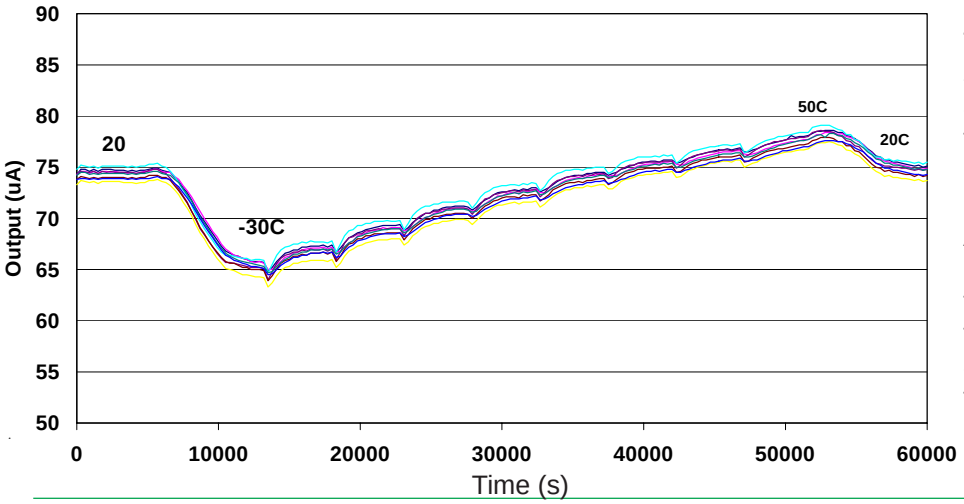


Figure 2 shows the very repeatable variation in sensitivity caused by changes in temperature.

This data is taken from typical batch of sensors.

Figure 3 Thermal Transient Performance



This time trace follows eight sensors' progress as they are first cooled to -30°C, then thermally stepped to +50°C before finally returning to -20°C.

As the O2-C3 experiences rapid temperature changes there are almost no thermal transients, avoiding false alarms, even when cooled from +20° to -30°C.

Figure 4 Pressure Step Performance

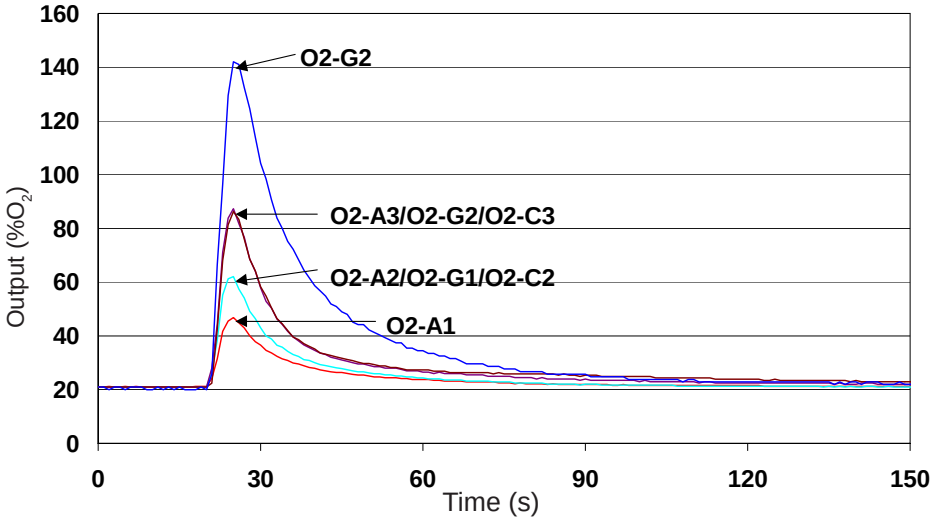


Figure 4 shows how the family of Alphasense oxygen sensors respond to a 10kPa pressure step.

Sensors with lower outputs and longer lifetime show greater output transients, but are predictable and repeatable.

深圳市杰晟兴电子有限公司 JM Components Limited

地址：深圳市福田区中航路7号鼎诚国际大厦南座2007室 邮编：518031

手机：13662266995 马少良 电话：0755-83951311 传真：0755-83952401

官网：cn-sensor.com 电邮：jackson@jmcomponents.com