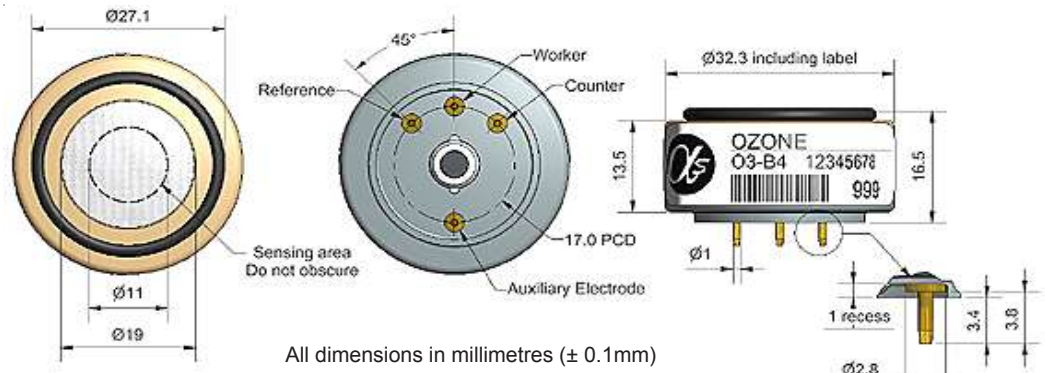
ЗАКАЗАТЬ: O3-B4 сенсор озона 0-5 ppm

O3-B4 Ozone Sensor
4-Electrode

PATENTED

Technical Specification

Figure 1 O3-B4 Schematic Diagram



All dimensions in millimetres (± 0.1mm)

Top View | Bottom View | Side View

PERFORMANCE

Sensitivity	nA/ppm at 100ppb O_3	-250 to -550
Response time	t_{90} (s) from zero to 100ppb	< 15
Zero current	nA in zero air at 20°C	0 to 120
Noise*	±2 standard deviations (ppb equivalent)	4
Range	ppm O_3 limit of performance warranty	5
Linearity	ppb error at full scale, linear at zero and 2ppm O_3	0 to 200
Overgas limit	maximum ppm for stable response to gas pulse	10

*** Tested with Alphasense ISB low noise circuit**

LIFETIME

Zero drift	ppb equivalent change/year in lab air	0 to 50
Sensitivity drift	% change/year in lab air, monthly test	-20 to -35
Operating life	months until 50% original signal (12 month warranted)	> 18

ENVIRONMENTAL

Sensitivity @ -20°C	(% output @ -20°C/output @ 20°C) @ 500ppb O_3	
Sensitivity @ 50°C	(% output @ 50°C/output @ 20°C) @ 500ppb O_3	
Zero @ -20°C	nA change from 20°C	-120 to -30
Zero @ 50°C	nA change from 20°C	800 to 1500

CROSS SENSITIVITY

H_2S sensitivity	% measured gas @ 5ppm	H_2S	< 90
NO_2 sensitivity	% measured gas @ 5ppm	NO_2	60 to 120
Cl_2 sensitivity	% measured gas @ 10ppm	Cl_2	< 50
NO sensitivity	% measured gas @ 1ppm	NO	< 4
SO_2 sensitivity	% measured gas @ 5ppm	SO_2	< -5
CO sensitivity	% measured gas @ 10ppm	CO	< 0.1
H_2 sensitivity	% measured gas @ 100ppm	H_2	< 1
C_2H_4 sensitivity	% measured gas @ 400ppm	C_2H_4	< 0.1
NH_3 sensitivity	% measured gas @ 20ppm	NH_3	< 1
CO_2 sensitivity	% measured gas @ 5%	CO_2	< 0.1

KEY SPECIFICATIONS

Temperature range	°C	-20 to +50
Pressure range	kPa	80 to 120
Humidity range	% rh non-condensing	15 to 85
Flow rate	minimum sccm during calibration	500 (0.5L/m)
Bias voltage	V	0
Storage period	months @ 3 to 20°C (stored in sealed pot)	6
Load resistor	Ω (ISB circuit is recommended))	33 to 100
Weight	g	< 13

NOTE: all sensors are tested at ambient environmental conditions, with 10 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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O3-B4 Performance Data

Technical Specification

Figure 2 Sensitiivity Temperature Dependence

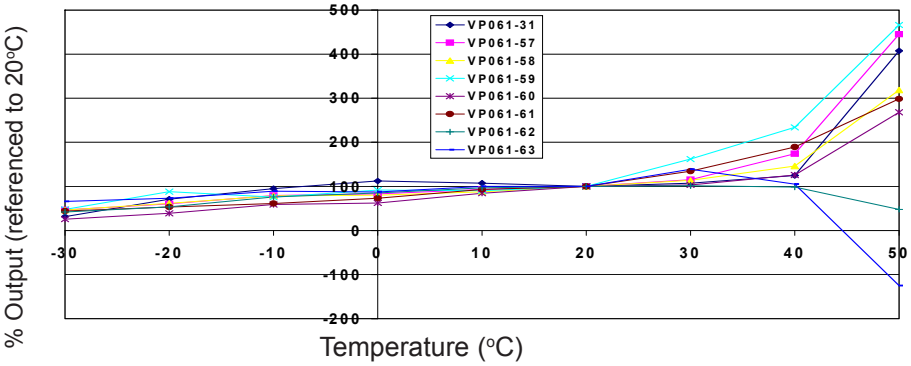


Figure 2 shows the temperature dependence of sensitivity at 100ppb O_3.

This data is taken from a typical batch of sensors.

Figure 3 Zero Temperature Dependence (corrected)

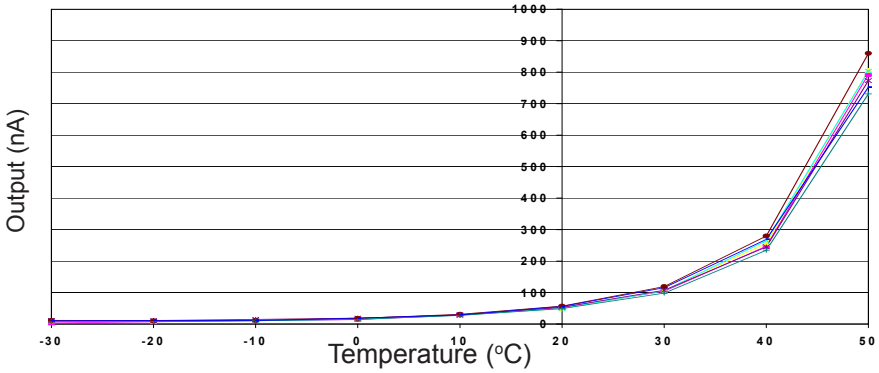


Figure 3 shows the variation in zero output of the working electrode caused by changes in temperature, expressed as nA.

This data is taken from a typical batch of sensors.

Contact Alphasense for futher information on zero current correction.

Figure 4 Linearity to 200ppb O_3

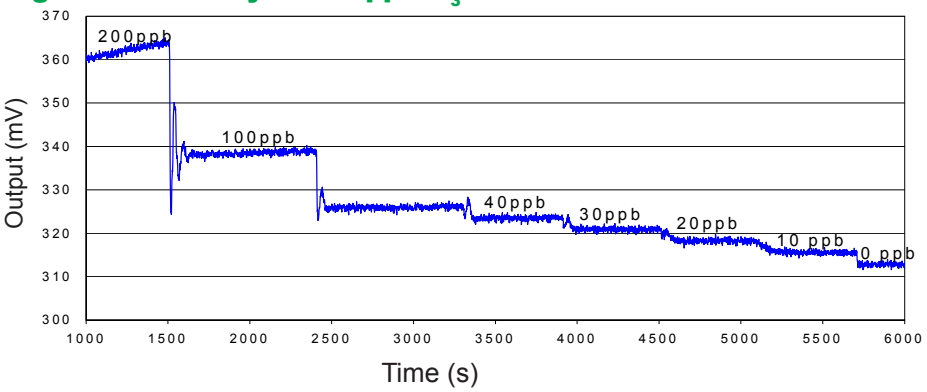
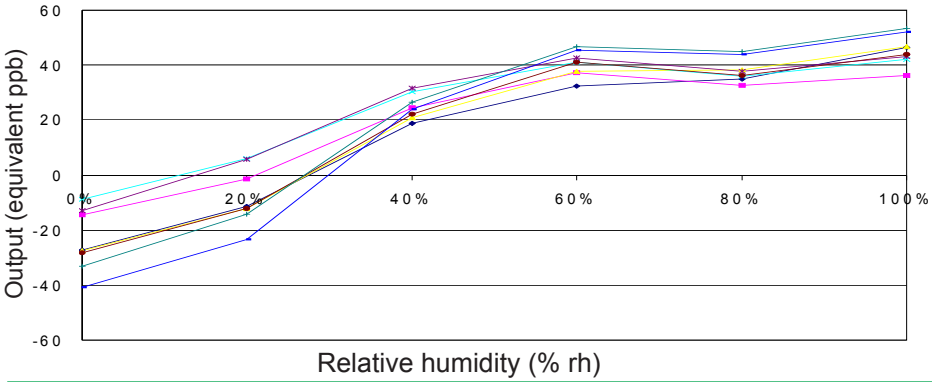


Figure 4 shows response to 200ppb O_3.

Use of Alphasense ISB circuit reduces noise to 4ppb, with the opportunity of digital smooting to reduce noise even further

Figure 5 Effect of Humidity on Sensor Ouput (1 mV = 0.8 ppb)



Humidity shifts the baseline but does not change the sensitivity.

The repeatability of the zero shift means that humidity correction can be achieved in software.

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.

For further information on the performance of this sensor, on other sensors in the range or any other subject, please contact Alphasense Ltd.

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. O3B4/NOV13

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