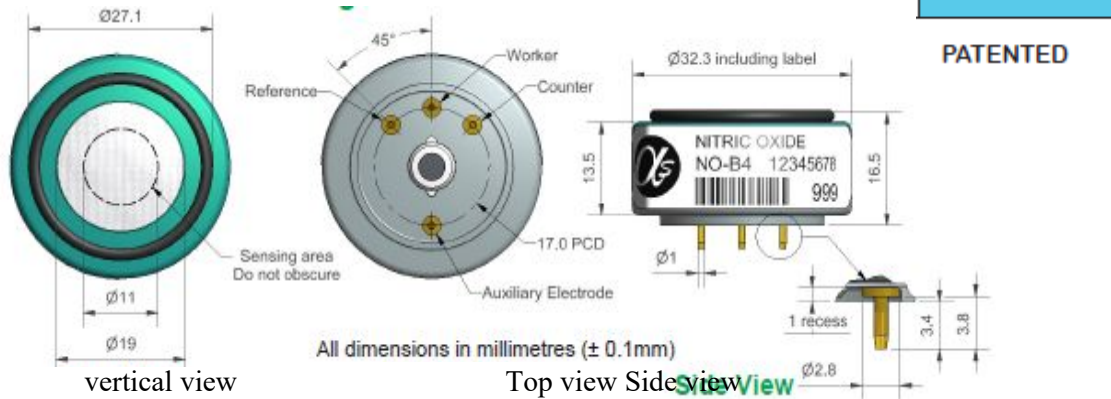


NO-B4 Nitric Oxide Sensor

Figure 1 NO-B4 Schematic Diagram



function	sensitivity	Sensitivity in 2ppmNO (nA/ppm)	500~850
	reaction time	Time from zero to 2ppmNO (s)	< 45
	zero current	Output at 20°C in zero grade air (nA)	30~200
	noise *	Standard deviation ± 2 (equivalent ppb)	15
	range	Measuring limits (ppm) that guarantee product performance	20
	degree of linearity	The ppm value of the full scale error is linear between 0 and 5ppm	< ±1
	overload	Maximum ppm value of gas pulse stabilized reaction	50
* The test uses Alphasense ISB low noise circuit board			
life span	zero drift	Equivalent ppb values that change in the laboratory air from year to year	0~50
	sensitivity drift	Percentage change in laboratory air over the year, measured monthly	0~20
	working life	Number of months to which the output is reduced to 50% of the original signal (24 months guaranteed)	> 24
envir- onment	-20°C sensitivity	2ppmNO when, (output at -20°C/ output at 20°C)%	60~90
	Sensitivity at 40°C	2ppmNO when, (40°C output/20°C output)%	97~110
	-20°C when zero point	nA	0~30
	40°C at the zero point	nA	100~200
cross sen- sitivity	H ₂ S	Gas sensitivity percentage at 5ppmH ₂ S(after 3 minutes)	< 10
	NO ₂	Gas sensitivity percentage ₂ at 5ppmNO(after 3 minutes)	< 4
	Cl ₂	Gas sensitivity percentage ₂ measured at 5ppmCl	< 3
	SO ₂	Gas sensitivity percentage ₂ at 5ppmSO	< 5
	H ₂	Gas sensitivity percentage measured at 100ppmH ₂	< 0.1
	CO	Gas sensitivity percentage measured at 5ppmCO	< 0.3
	NH ₃	Gas sensitivity percentage ₃ measured at 5ppmNH	< 0.1
	CO ₂	5%Vol CO ₂ when measured percentage sensitivity of gas	< 0.1
	O ₃	Sensitivity percentage of gas ₃ measured at 100ppbO	< 4
	halothane	Gas sensitivity percentage measured at 100ppm fluorine	< 0.1
key param- eter	bias voltage	mV (working electrode potential greater than reference electrode potential)	+200
	temperature range	°C	-30~40
	pressure limit	kPa	80~120
	Humidity range	Percentage of continuous relative humidity	15~85
	Storage period	Number of months for preservation from 3 to 20°C (to be kept in a sealed tank)	6
	load resistance	Ω (ISB circuit board is recommended)	33~100
	weight	g	< 13

Figure 2 Sensitivity Temperature Characteristics

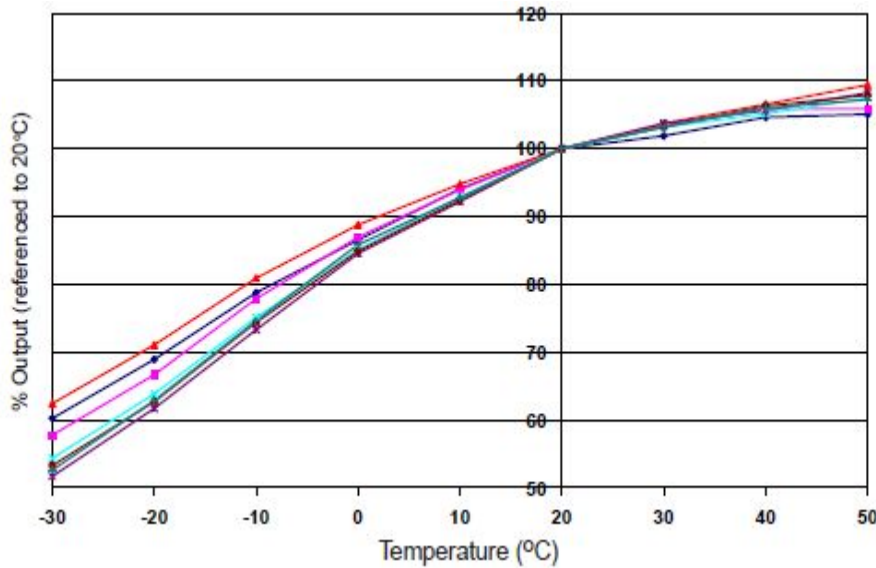


FIG. 2 shows the temperature characteristics of sensitivity at 2ppm NO.

Data was collected from typical batch sensors.

Figure 3 Zero Temperature Characteristics

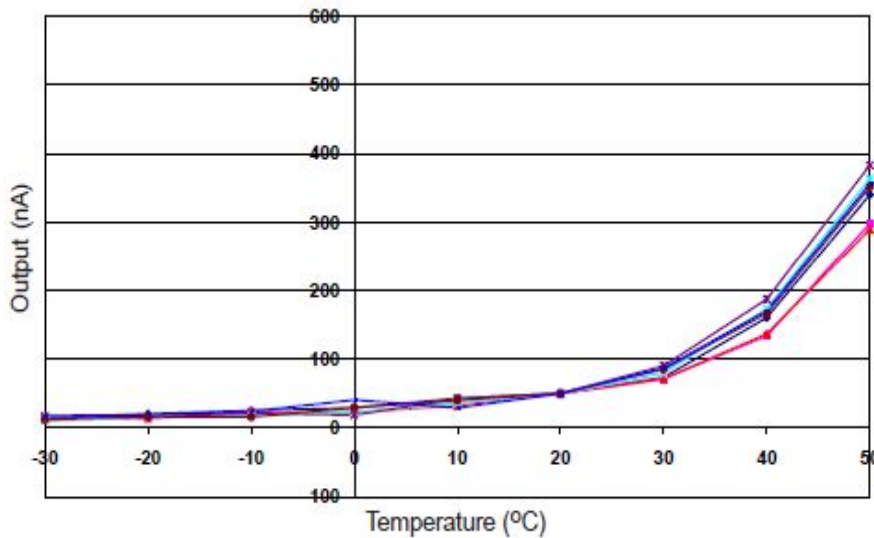


Figure 3 shows the change of zero point output of the working electrode caused by temperature change, in units of nA.

Data was taken from a typical batch of sensors.

For more information about zero current correction, contact Alphasense.

Figure 4 Reaction of 200ppb NO

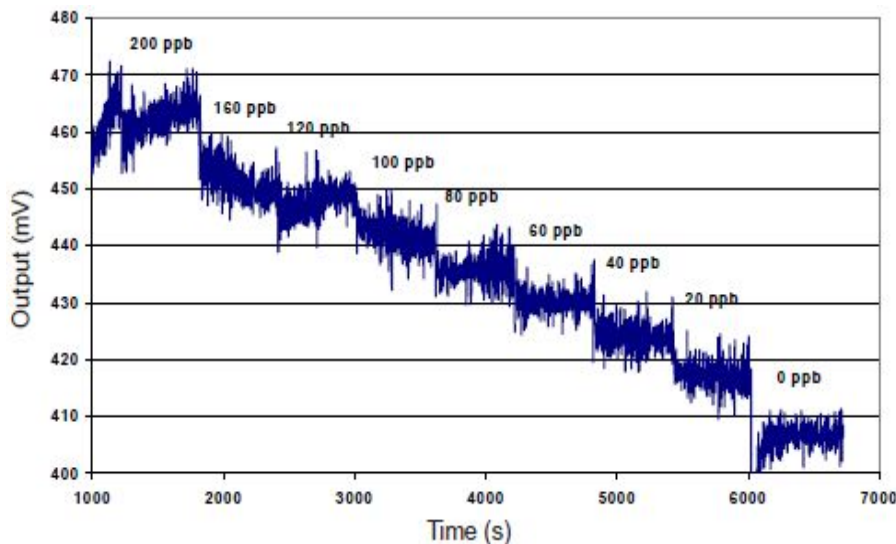


Figure 4 shows the reaction of transducer to 200~0ppb NO.

The noise can be reduced to 15ppb using Alphasense ISB circuit board, and the use of digital filter can further reduce the noise.

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