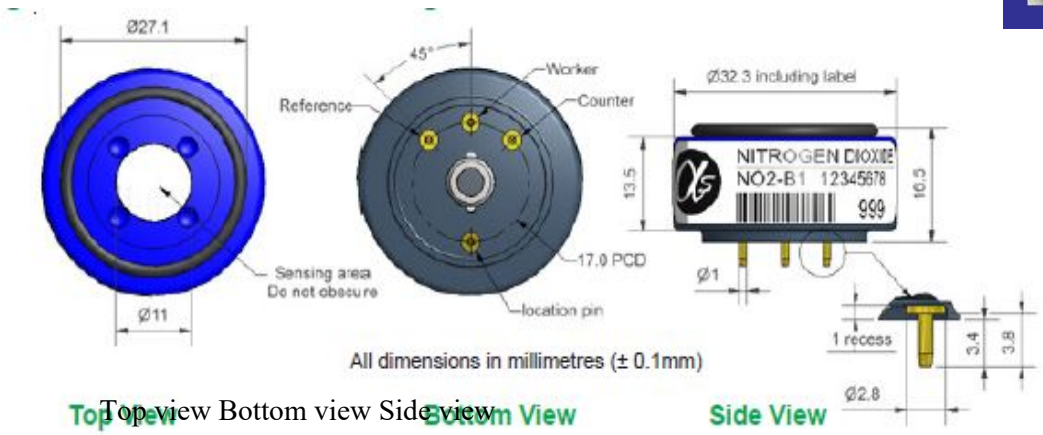
NO2-B1 Nitrogen Dioxide Sensor

Figure 1 schematic diagram of NO2-B1



Top view Bottom view Side view

function	sensitivity	Sensitivity $_2$ in 10ppmNO(nA/ppm)	-450~-1000
	reaction time	Time $_2$ to 10ppmNO from zero (s) (33Ω load resistance)	< 60
	zero current	Equivalent to ppm in zero grade air	< ± 0.4
	resolution ratio	RMS noise (equivalent ppm) (33Ω load resistance)	< 0.02
	range	Measuring limits (ppm) that guarantee product performance	20
	degree of linearity	The ppm value of the full scale error is linear from 0 to 10ppm	< ± 0.2
	overload	Maximum ppm value of gas pulse stabilized reaction	100
life span	zero drift	Equivalent ppm values that change in the laboratory air from year to year	< 0.03
	sensitivity drift	Percentage change in laboratory air over the year, measured monthly	< -20~-40
	working life	Number of months to which the output has been reduced to 80 per cent of the original signal (24-month guarantee)	> 24
environment	-20°C sensitivity	5ppmNO $_2$ at (-20°C output/20°C output)%	75~95
	Sensitivity at 50°C	5ppmNO $_2$ at(50°C output/20°C output)%	100~112
	-20°C when zero point	Change in equivalent ppm value, reference 20°C	< ± 0.1
	50°C at zero point	Change in equivalent ppm value, reference 20°C	< 0~-0.5
cross sensitivity	H_2S	Gas sensitivity percentage at 20ppmH $_2$ S	< -100
	NO	Gas sensitivity percentage measured at 50ppmNO	< 0.5
	Cl_2	Sensitivity percentage of gas measured $_2$ at 10ppmCl	< 100
	SO_2	Gas sensitivity percentage $_2$ at 20ppmSO	< -2
	CO	Gas sensitivity percentage measured at 400ppmCO	< 0.1
	H_2	Gas sensitivity percentage measured at 400ppmH $_2$	< 0.1
	C_2H_4	Gas sensitivity percentage measured at 400ppmC $_2$ H $_4$	< 0.1
	NH_3	Percentage sensitivity of gas $_3$ at 20ppmNH	< 0.1
	CO_2	Sensitivity percentage of gas measured $_2$ at 5%Vol CO	0
Critical temperature range		℃	-20~50
Parameter pressure range		kPa	80~120
	Humidity range	Percentage of continuous relative humidity	
	15~90 Storage period	Number of months for preservation from 3 to 20°C (to be kept in a sealed tank)	6
	load resistance	Ω (For optimized performance)	33
	weight	g	< 13

Note: If the sensor is used in an environment with humidity above 85%rh and temperature above 40°C, the product performance can only be guaranteed for 10 days. If the above environment exists, please place the sensor in a low humidity and low temperature environment for several days, and then use it when the electrolyte quantity returns to normal state.

Figure 2 Sensitivity Temperature Characteristics

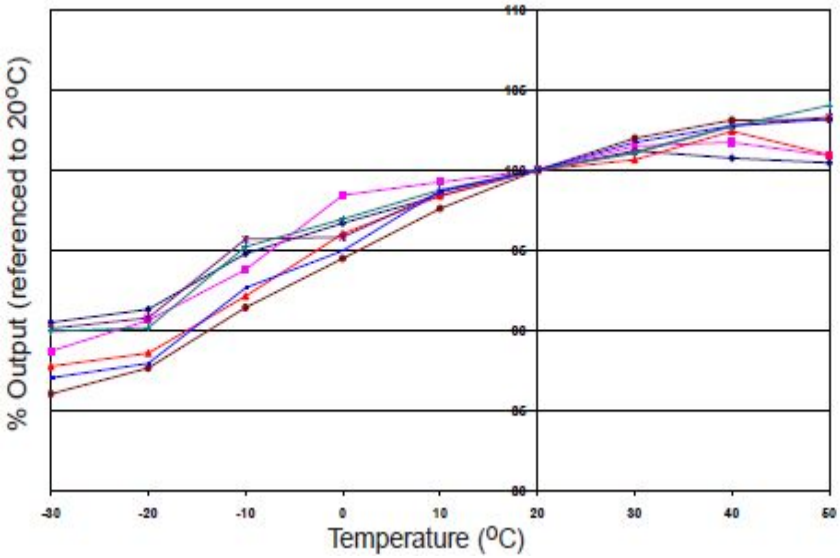


Figure 2 shows the sensitivity changes caused by temperature changes.

Data was collected from typical batch sensors.

Figure 3 Zero Temperature Characteristics

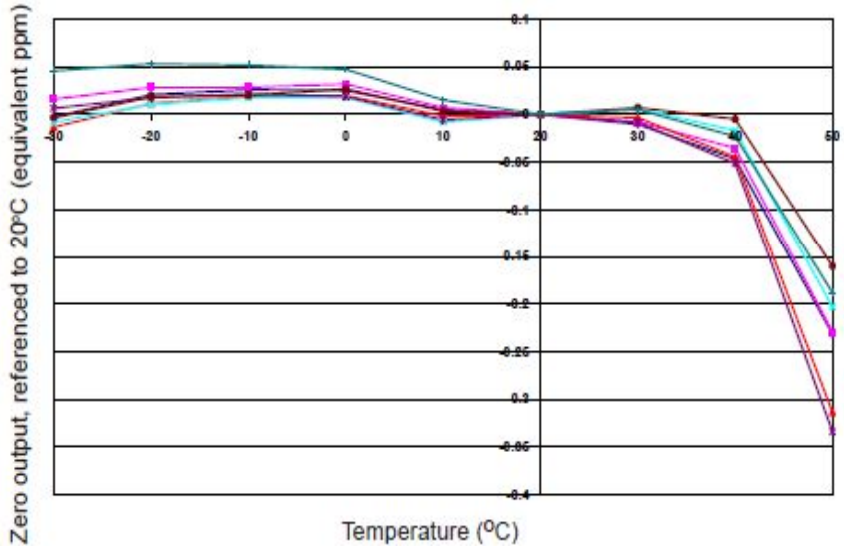


Figure 3 shows the change in zero point output caused by temperature changes, expressed as equivalent ppm values, with reference to the zero point at 20°C.

Data is taken from a typical batch of sensors.

Figure 4. Influence of Load Resistance Size on Noise

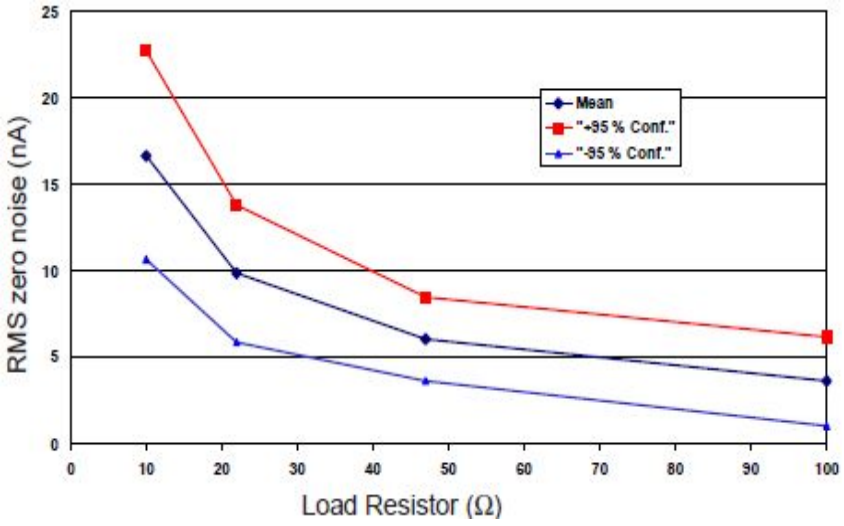


Figure 4 shows the effect of load resistance on the RMS zero-point noise of the NO2-B1 sensor. Figure 4 shows the mean noise and ±95% confidence interval.

The T90 response time of the sensor increases linearly with the resistance of the load. If a fast response is required, a 10Ω load resistor should be used.

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