NO2-A1 Nitrogen Dioxide Sensor

Figure 1 NO2-A1 schematic diagram

Top view Bottom view Side view

function	sensitivity	Sensitivity $_2$ in 10ppmNO(nA/ppm)	-250~-650
	reaction time	Time $_2$ to 10ppmNO from zero (s) (33Ω load resistance)	< 50
	zero current	Equivalent ppm value of zero air	< ± 0.4
	resolution ratio	RMS noise (equivalent ppm value) (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	< 1.5
	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	< 0.05
	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% of the original signal (24-month guarantee)	> 24
environment	-20°C sensitivity	5ppmNO $_2$ at (-20°C output/20°C output)%	73~94
	Sensitivity at 50°C	5ppmNO $_2$ at(50°C output/20°C output)%	105~125
	-20°C when zero point	Change in equivalent ppm values with reference to 20°C zero	< ± 0.2
	50°C at zero point	Change in equivalent ppm values with reference to 20°C zero	< 0~-0.5
cross sensitivity	H_2S	Gas sensitivity percentage at 20ppmH $_2$ S	< -35
	Cl_2	Sensitivity percentage of gas measured $_2$ at 10ppmCl	< 80
	NO	Gas sensitivity percentage measured at 50ppmNO	< 5
	SO_2	Gas sensitivity percentage $_2$ at 20ppmSO	< -15
	CO	Gas sensitivity percentage measured at 400ppmCO	< 0.1
	H_2	Gas sensitivity percentage measured at 400ppmH $_2$	< 0.1
	C_2H_4	Sensitivity percentage of gas measured at 50ppmC $_2$ H $_4$	< 0.1
	NH_3	Percentage sensitivity of gas $_3$ at 20ppmNH	< 0.1
	CO_2	5%Vol CO $_2$ when measured percentage sensitivity of gas	< 0.1
	O_3	Gas sensitivity percentage $_3$ at 200ppbO	< 120
key parameter	temperature range	℃	-20~50
	pressure limit	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	< 6

Figure 2 Sensitivity Temperature Characteristics

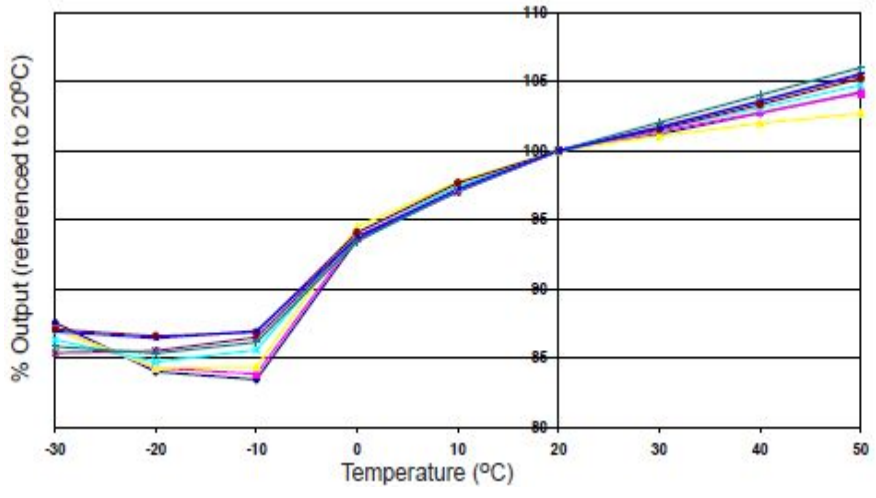

Figure 2 shows the change of sensor sensitivity caused by temperature changes.

Data was collected from typical batch sensors.

Figure 3 Zero Temperature Characteristics

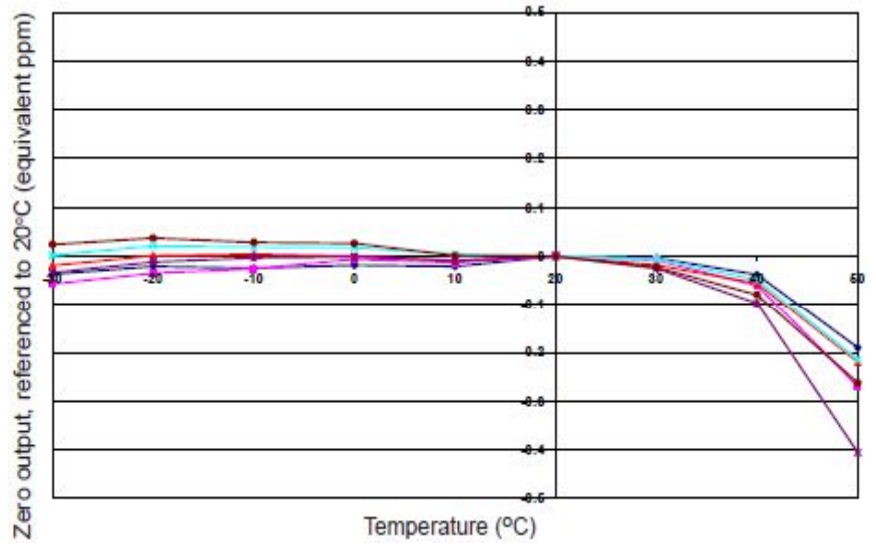

Figure 3 shows the zero point output change caused by temperature change, expressed as equivalent ppm values, and refers to the zero point at 20℃.

Data is taken from a typical batch of sensors.

Figure 4. Response to Humidity and Temperature Transients

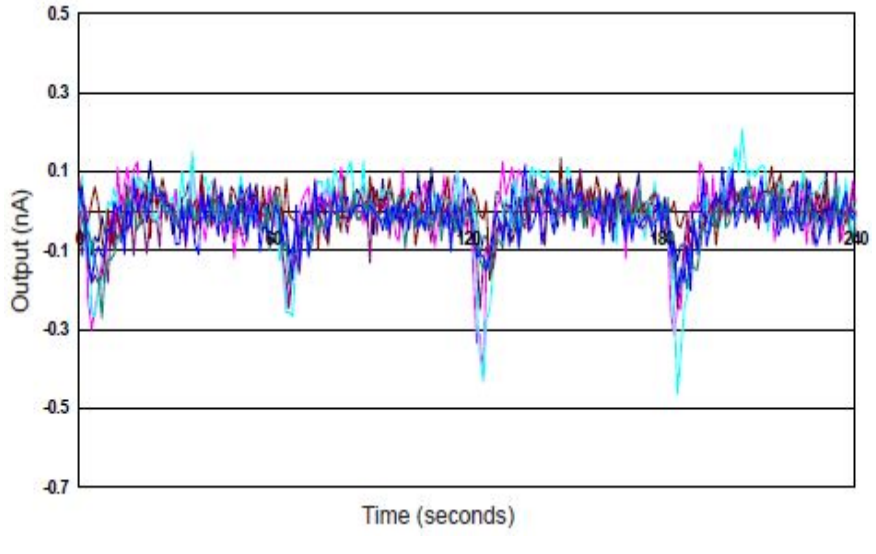

Figure 4 shows the output of a group of transducers during 240 seconds of four-cycle exhalation.

This test is a limit test for this type of sensor. From Figure 4, we can see that the baseline shift does not exceed 0.5ppm, which shows that the sensor has strong tolerance to this test.

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