SO2-BE Sulfur Dioxide Sensor

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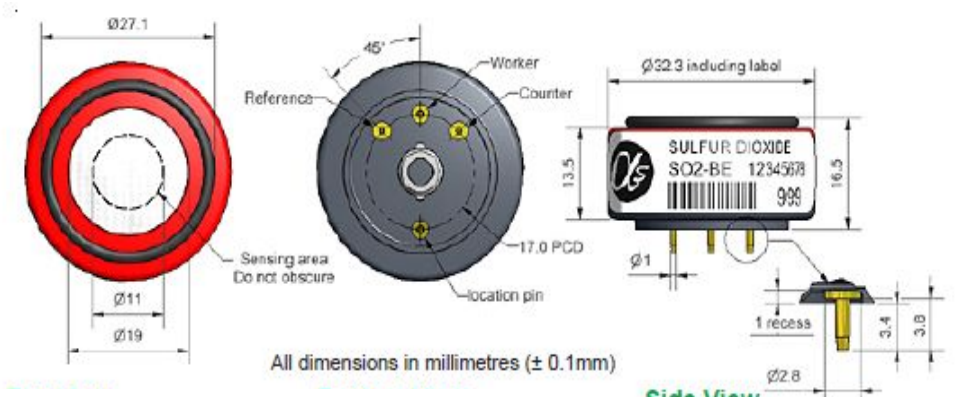
Figure 1 Schematic Diagram of SO2-BE



vertical view upward view lateral view

function	sensitivity	Sensitivity $_2$ in 20 ppm (nA /ppm)	70~100
	reaction time	Time from zero to 20ppmSO $_{2\ t90}$ (s)	< 30
	zero current	Equivalent ppm value in zero air	< ±2
	resolution ratio	RMS noise (equivalent ppm value)	< 2
	range	Measuring limits (ppm) that guarantee product performance	2000
	degree of linearity	The ppm value of the full scale error is linear from 0 to 20ppm	nd
	overload	Maximum ppm value of gas pulse stabilized reaction	10000
life span	zero drift	Equivalent ppm values that change in the laboratory air from year to year	nd
	sensitivity drift	Percentage change in laboratory air over the year, measured monthly	nd
	working life	Number of months to which the output is reduced to 80% of the original signal (24 months guaranteed)	> 24
environment	-20°C when sensitivity	(Output at-20°C/Output at 20°C)% $_2$ at 20ppmSO	80~90
	Sensitivity at 50°C	20ppmSO $_2$ at(50°C output/20°C output)%	95~105
	-20°C when zero point	Change in equivalent ppm values with reference to 0°C 20	< ±1
	50°C at the zero point	Change in equivalent ppm values with reference to 20°C zero	< -1~10
cross sensitivity	filter capacity	ppm· hour H_2S	< 4000
	H_2S	Gas sensitivity percentage at 20ppmH $_2$ S	< 2
	NO_2	Gas sensitivity percentage $_2$ measured at 10ppmNO	< -180
	Cl_2	Sensitivity percentage of gas measured $_2$ at 10ppmCl	< 35
	NO	Gas sensitivity percentage measured at 50ppmNO	< -30
	CO	Gas sensitivity percentage measured at 400ppmCO	< 8
	H_2	Gas sensitivity percentage $_2$ at 400ppmH	< 1.5
	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
Critical temperature range		℃	-30~50
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 （recommend）	10~47
	weight	g	< 13

Note: If the sensor is used in an environment with humidity above 85%rh and temperature above 40℃, 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

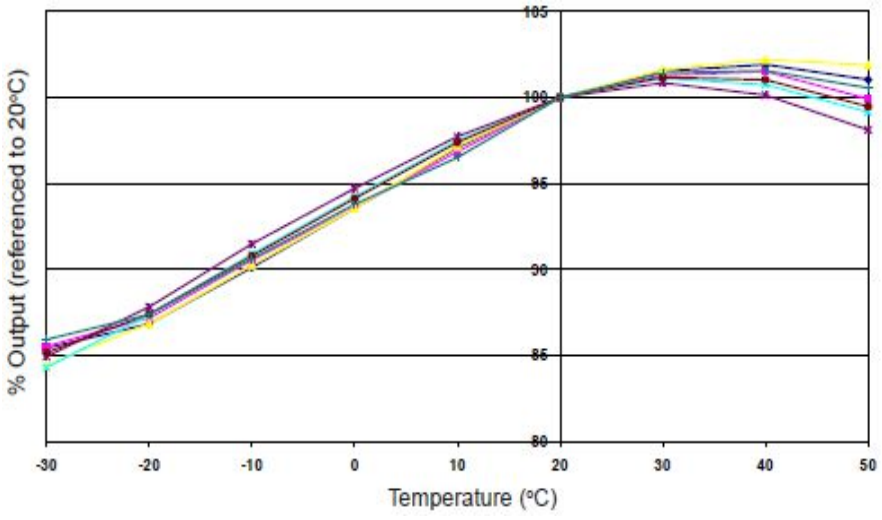


Figure 2 shows the change in sensor sensitivity caused by temperature variation.

Data is collected from typical batch sensors.

Figure 3 Zero Temperature Characteristics

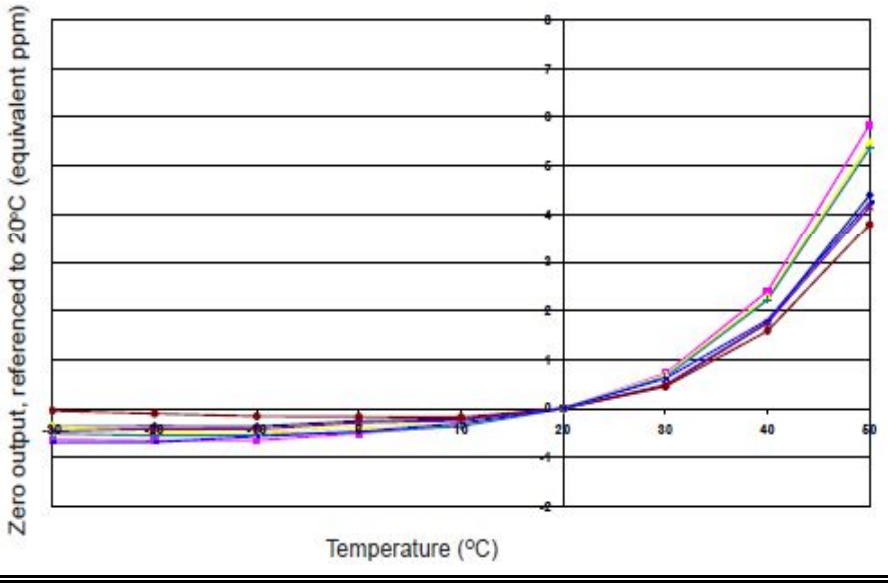
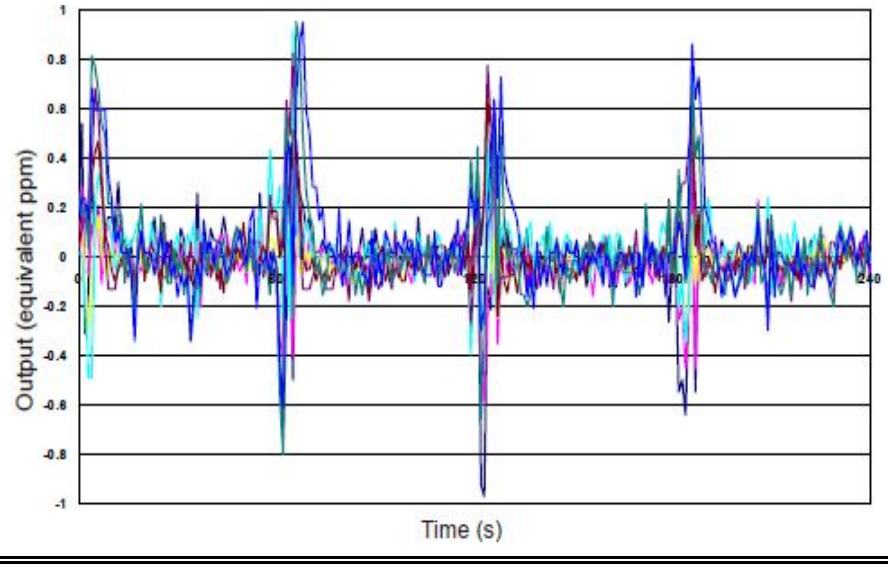


Figure 3 shows the zero point output change caused by temperature change, expressed as equivalent ppm values, and refers to the zero point at 20℃.

Data is taken from a typical batch of sensors.

Figure 4 Exhalation Test Response



As shown in the figure, only the air is called to the transducer and it will cause a transient change in temperature and humidity.

SO2-BE can recover to the baseline very quickly and return to zero after four consecutive exhalations.

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