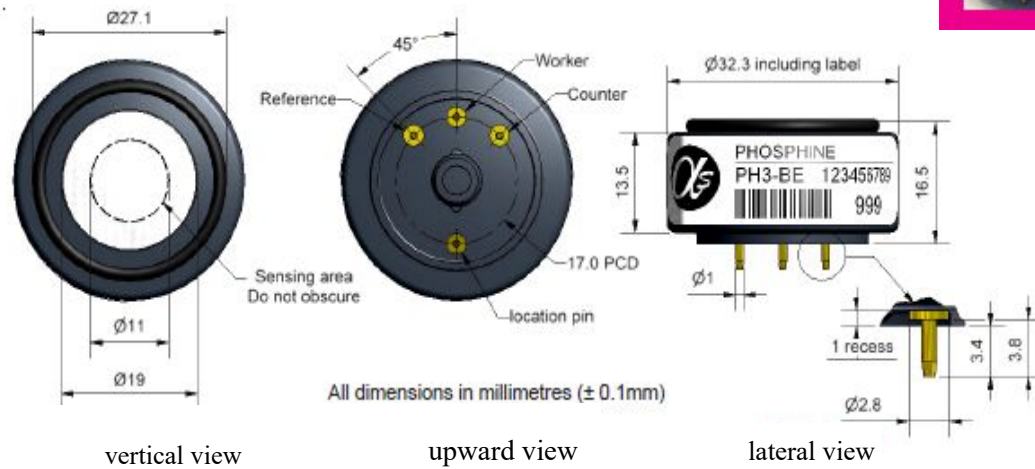


PH3-BE Phosphine Sensor



Figure 1 PH3-BE Schematic Diagram



function	sensitivity	Sensitivity $_3$ in 800ppmPH (nA/ppm)	15~35
	reaction time	Time $_3$ to 800ppmPH from zero (s)	< 30
	zero current	Equivalent ppm value in zero air	< -6~+20
	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 800ppm	-50~-350
	overload	Maximum ppm value of gas pulse stabilized reaction	5000
life span	zero drift	Equivalent ppm values that change in the laboratory air from year to year	< 1.5
	sensitivity drift	Percentage change in laboratory air over the year, measured monthly	< 4
	working life	Number of months to which the output is reduced to 80% of the original signal (24 months guaranteed)	> 24
environment	-20°C sensitivity	800ppmPH $_3$ at (-20°C output/20°C output)%	65~85
	Sensitivity at 50°C	800ppmPH $_3$ at(50°C output/20°C output)%	120~140
	-20°C when zero point	Change in equivalent ppm values with reference to 0°C 20	< ± 20
	50°C at zero point	Change in equivalent ppm values with reference to 20°C zero	< ± 15
cross sensitivity	H ₂ S	Gas sensitivity percentage at 20ppmH ₂ S	< 110
	NO ₂	Gas sensitivity percentage $_2$ measured at 10ppmNO	< -35
	Cl ₂	Sensitivity percentage of gas measured $_2$ at 10ppmCl	< -30
	NO	Gas sensitivity percentage measured at 50ppmNO	< 10
	SO ₂	Gas sensitivity percentage $_2$ at 20ppmSO	< 25
	CO	Gas sensitivity percentage measured at 400ppmCO	< 11
	H ₂	Gas sensitivity percentage measured at 400ppmH ₂	< 2
	C ₂ H ₄	Gas sensitivity percentage measured at 80ppmC ₂ H ₄	< 60
	NH ₃	Gas sensitivity percentage $_3$ at 25ppmNH	< 0.1
CO ₂	Sensitivity percentage of gas measured at 5%Vol CO ₂	< 0.1	
key parameter	temperature range	°C	-20~50
	pressure limit	kPa	80~120
	Humidity range	Percentage of continuous relative humidity	20~90
	Storage period	Number of months for preservation at 0~20°C (to be preserved in a sealed tank)	6
	load resistance	Ω (recommend)	10~33
	bias voltage	Higher than the mW of simulated grounding	non-essential
	weight	g	< 13

Figure 2 Zero Temperature Characteristics

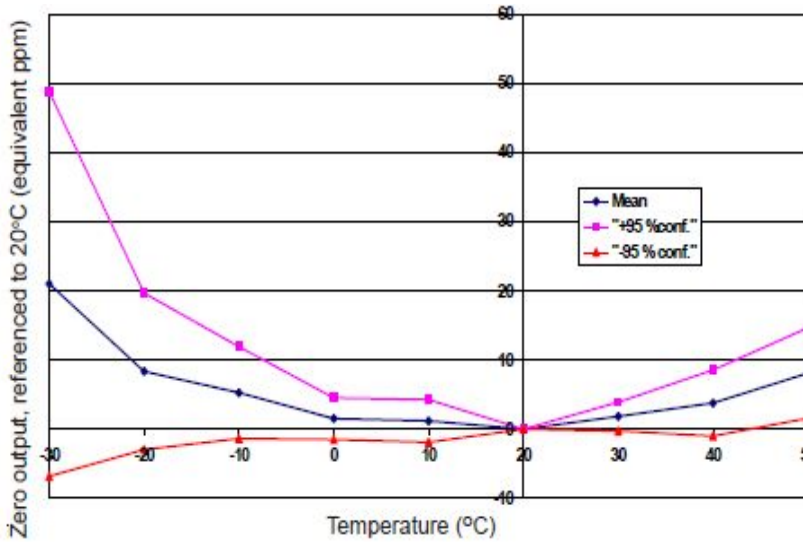
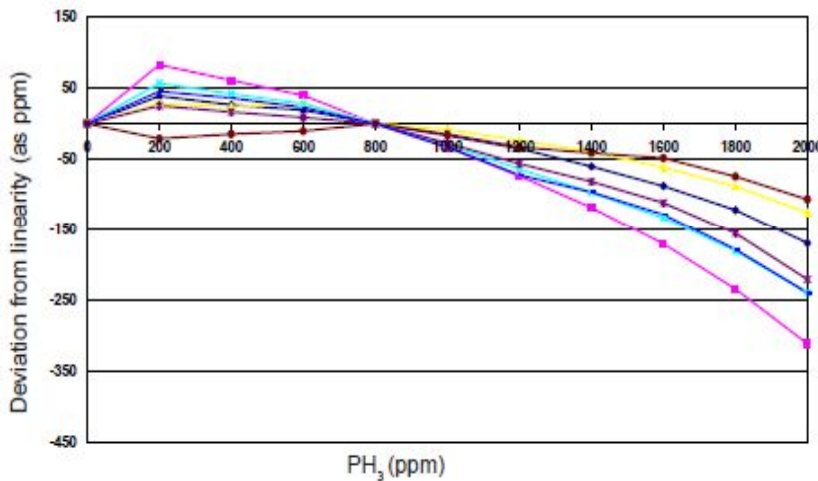


Figure 2 shows the change in zero point output caused by temperature changes, expressed as equivalent ppm values, with reference to the zero point at 20°C.

The data are taken from a typical batch of sensors. Figure 3 shows the mean and \pm 95% confidence interval of the zero point output percentage (reference 20°C).

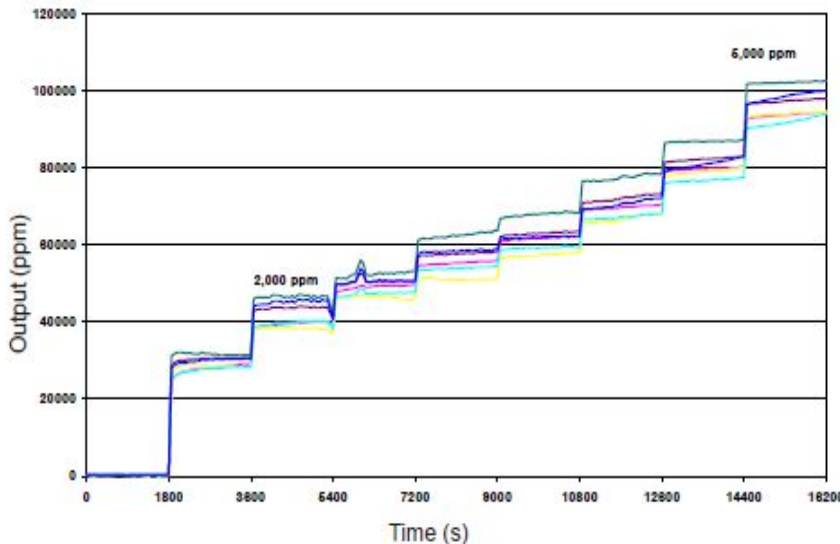
Figure 3. Linear Deviation from 0 to 2000ppm



The linearity between the sensors is repeatable, as shown in Figure 3, and can be corrected by software if needed.

Data was collected from typical batch sensors.

Figure 4 Overload Linearity



Even at PH_3 concentration of 5000 ppm, the sensor response is still fast and stable, as shown in Figure 4.

After short-term exposure to a high concentration of target gas, the sensor will recover quickly and the performance will not change.

深圳市杰晟兴电子有限公司 JM Components Limited