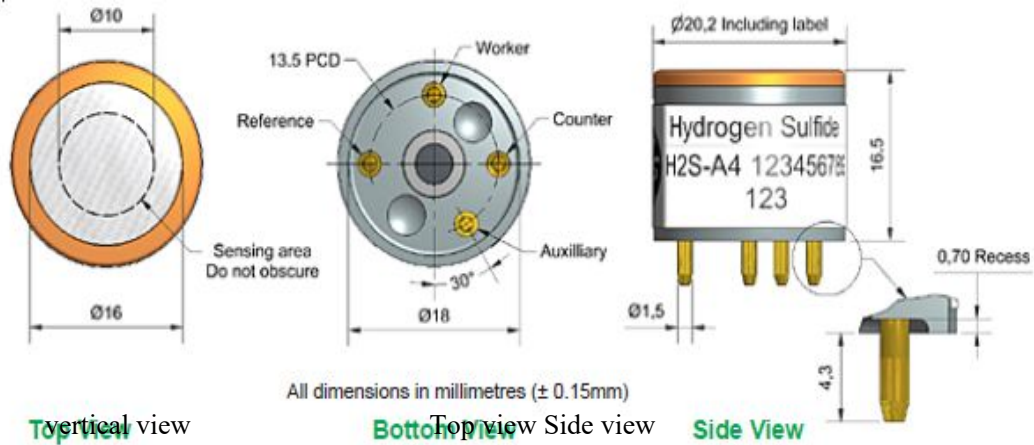


H2S-A4 Sulfur Dioxide Sensor Four- Electrode



Figure 1H2S-A4 Schematic Diagram



function	sensitivity	Sensitivity in 2ppmH ₂ S (nA /ppm)	1400~2200
	reaction time	Time to t90 from zero to 2ppmH ₂ S (s)	< 60
	zero current	Output at 20°C in zero grade air (nA)	-250~100
	Noise *	Standard deviation ± 2 (equivalent ppb value)	5
	scope	Measuring limits (ppm) that guarantee product performance	50
	degree of linearity	The value of the full scale error in ppb is linear between 0 and 10 ppm	< ±0.5
	overload	The maximum ppm of gas pulse stabilization reaction	100
* The test uses Alphasense AFE low noise circuit board			
life span	zero drift	Equivalent ppb values that change in the laboratory air from year to year	< ±100
	sensitivity drift	Percentage change in laboratory air over the year, measured monthly	< 20
	working life	Number of months to which the output is reduced to 50% of the original signal (24 months guaranteed)	24
environment	-20°C sensitivity	At 2ppmH ₂ S, (output at -20°C/ output at 20°C)%	80~92
	Sensitivity at 50°C	At 2ppmH ₂ S, (output at 50°C/ output at 20°C)%	100~110
	-20°C when zero point	Change in the value of nA with reference to 0°C 20	30~50
	50°C at zero point	Change in the value of nA with reference to 0°C 20	90~110
cross connection sensitivity	NO ₂	Gas sensitivity percentage ₂ measured at 5ppmNO	< -20
	Cl ₂	Gas sensitivity percentage ₂ measured at 5ppmCl	< -8
	NO	Gas sensitivity percentage measured at 5ppmNO	< 3
	SO ₂	Gas sensitivity percentage ₂ measured at 5ppmSO	< 15
	CO	Gas sensitivity percentage measured at 5ppmCO	< 1
	H ₂	Gas sensitivity percentage measured at 100ppmH ₂	< 0.5
	C ₂ H ₄	Gas sensitivity percentage measured at 100ppmC ₂ H ₄	< 0.5
	NH ₃	Gas sensitivity percentage ₃ measured at 5ppmNH	< 0.1
	CO ₂	Gas sensitivity percentage measured at 5% CO ₂	< 0.1
key parameter	temperature range	°C	-30~50
	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 (Recommended use of AFE circuit board)	33~100
	weight	g	< 6

Figure 2 Sensitivity Temperature Characteristics

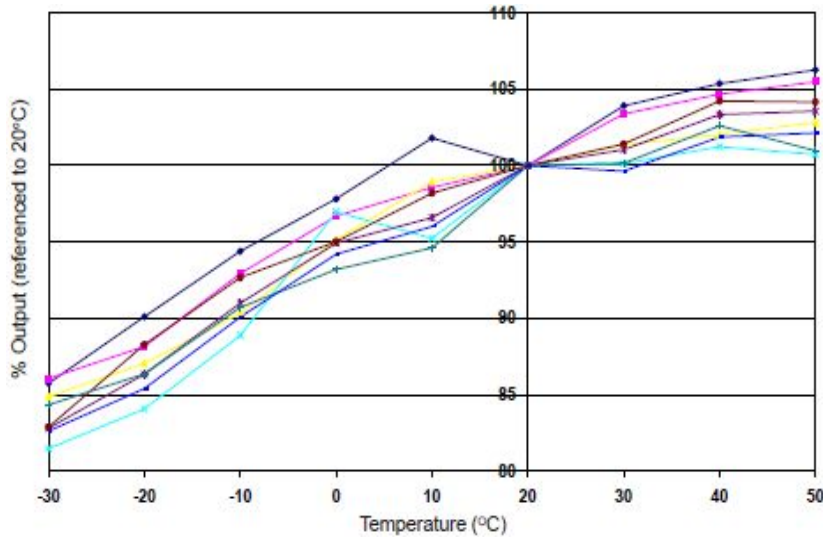


FIG. 2 shows the temperature characteristics of sensitivity at 2 ppm H₂S.

Data was collected from typical batch sensors.

Figure 3 Zero Temperature Characteristics (uncorrected)

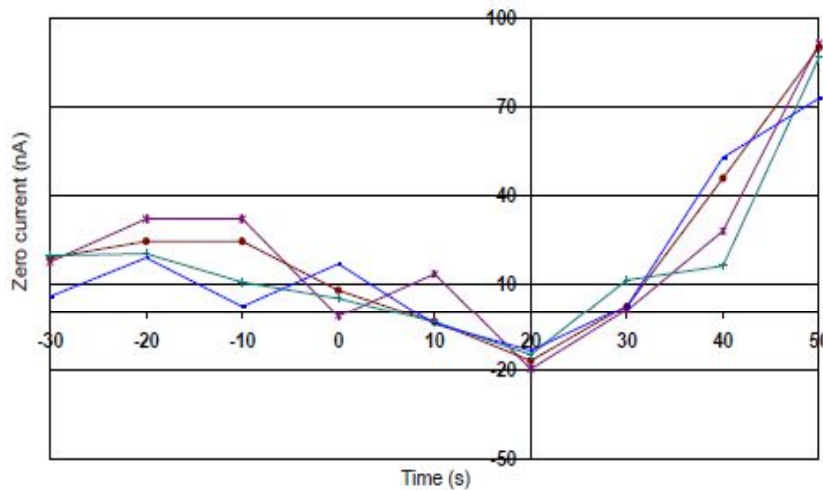


FIG. 3 shows the zero point output variation of the working electrode caused by temperature change, in units of nA.

Data was collected from typical batch sensors.

For more information about zero current correction, please contact tie

Alphasense.

Figure 4. Linearity from 0 to 200 Ppb

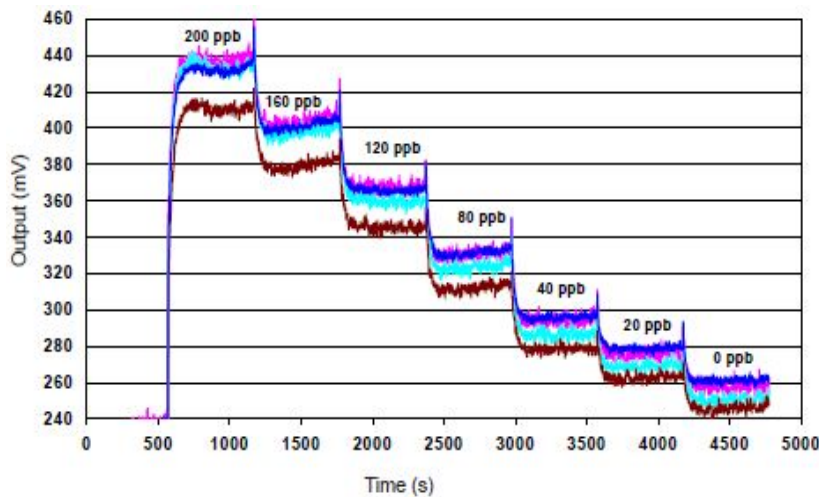


Figure 4 shows the response of the sensor in 0~200ppb H₂S.

make use of The Alphasense AFE circuit board reduces noise to 5ppb, and digital filtering can be used to further reduce noise.

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