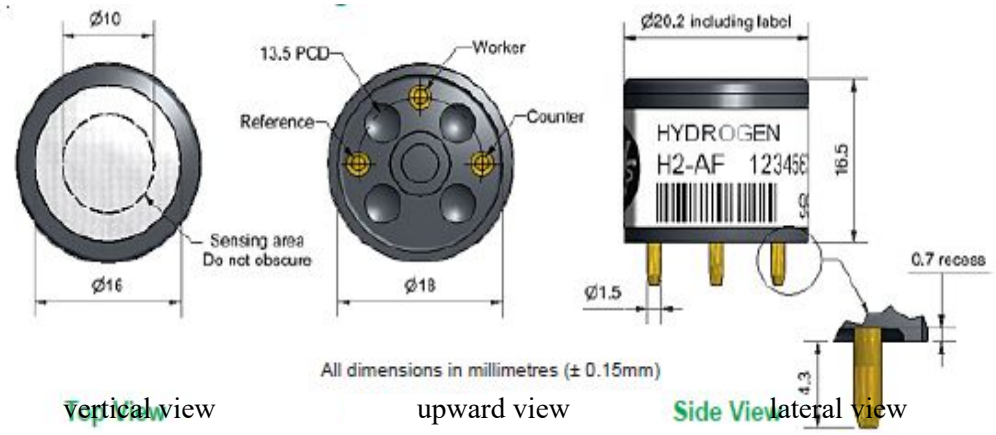
H2-AF Hydrogen Sensor

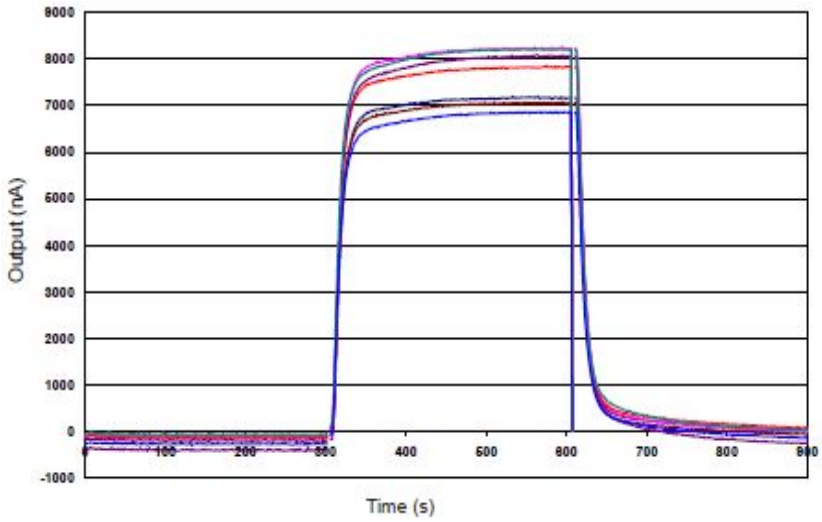
Figure 1 Schematic Diagram of H2-AF



vertical view upward view lateral view

function	sensitivity	Sensitivity $_2$ in 400ppmH (nA/ppm)	10~40
	reaction time	Time $_2$ to 400ppmH from zero (s)	< 35
	zero current	Equivalent ppm value in zero air	-25~15
	resolution ratio	RMS noise (equivalent ppm value)	< 0.7
	scope	Measuring limits (ppm) that guarantee product performance	2000
	degree of linearity	The ppm value of the full scale error is linear from 0 to 400ppm	-200~-500
	overload	The maximum ppm of gas pulse stabilization reaction	5000
life span	zero drift	Equivalent ppm values that change in the laboratory air from year to year	< 20
	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 sensitivity	500ppmH $_2$ at (-20°C output/20°C output)%	10~25
	Sensitivity at 50°C	500ppmH $_2$ at(output at 50°C/20°C)%	220~275
	-20°C when zero point	Change in equivalent ppm values with reference to 20°C zero	±2
	50°C at zero point	Change in equivalent ppm values with reference to 20°C zero	0~-4
cross sensitivity	filter capacity	ppm· hour H_2S	nd
	CO	Gas sensitivity percentage measured at 400ppmCO	< 2
	NO_2	Gas sensitivity percentage $_2$ measured at 10ppmNO	< 1
	Cl_2	Gas sensitivity percentage $_2$ measured at 10ppmCl	< 1
	NO	Gas sensitivity percentage measured at 50ppmNO	< 40
	SO_2	Gas sensitivity percentage $_2$ measured asppmSO	< 4
	H_2S	Gas sensitivity percentage measured at 20ppmH $_2$ S	< 2
	C_2H_4	Gas sensitivity percentage $_2$ H $_4$ measured at 400ppmC	< 25
	NH_3	Gas sensitivity percentage $_3$ measured at 20ppmNH	< 1
	CO_2	Gas sensitivity percentage $_2$ measured by 5%CO	< 1
key parameter	temperature range	℃	-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℃ (to be kept in a sealed tank)	6
	load resistance	Ω （recommend）	10~47
	weight	g	< 6

Figure 2 Reaction at 400ppm H_2



The hydrogen sensor has high response to hydrogen and good output consistency, but low sensitivity to CO.

Figure 3 Sensitivity Temperature Characteristics

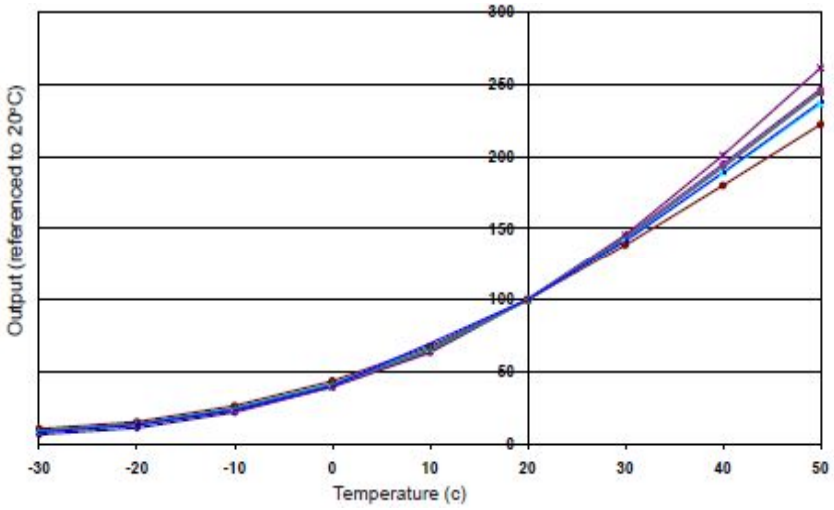


Figure 3 shows the typical temperature characteristics of the sensor sensitivity at 1000ppm H_2.

Because temperature has a great influence on sensitivity, it is necessary to measure temperature accurately (±0.5℃)

Figure 4 Zero Current Temperature Characteristics

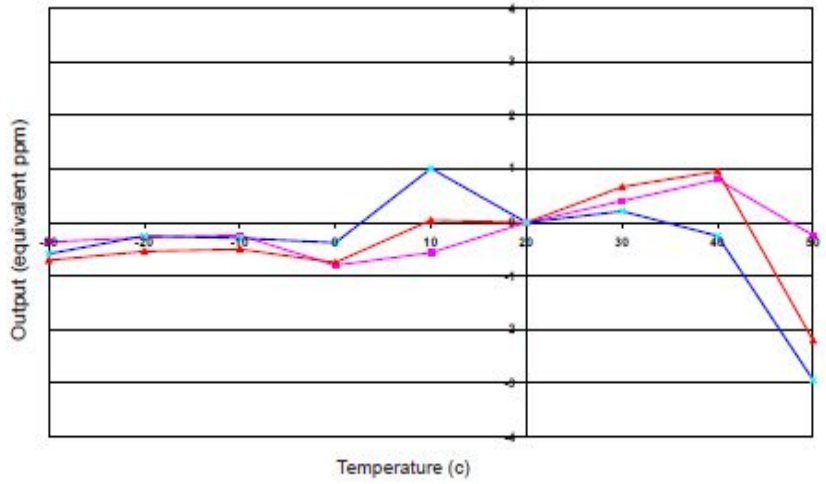


Figure 4 shows the typical zero current at temperatures of-30℃ to +50℃, expressed in ppm, with reference to the zero at 20℃.

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