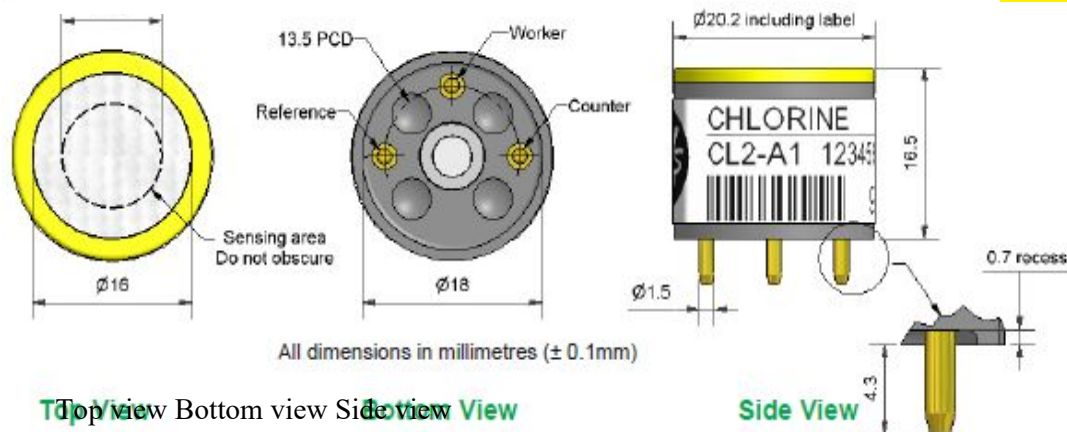


CL2-A1 Chlorine Gas Sensor



Figure 1 schematic diagram of CL2-A1



function	sensitivity	Sensitivity $_2$ in 10ppmCl (nA/ppm)	-350~-750
	reaction time	Time $_2$ to t90 from zero to 10ppmCl (s) (33 Ω load resistance)	< 60
	zero current	Equivalent ppm value in zero air	± 0.4
	resolution ratio	RMS noise (equivalent ppm value) (33 Ω load resistance)	< 0.02
	range	Measurable limits (ppm) that guarantee product performance	20
	degree of linearity	The ppm value of the full scale error is linear from 0 to 5ppm	± 1.5
	overload	Maximum ppm value of gas pulse stabilized reaction	50
life span	zero drift	The equivalent ppm value of the annual change in the laboratory air was measured monthly	< 0.05
	sensitivity drift	Percentage change in laboratory air over the year, measured monthly	< 10
	working life	Number of months to which the output is reduced to 80% of the original signal (warranty 24 months)	> 24
environment	-20°C sensitivity	(Output at -20°C / Output at 20°C) % $_2$ at 10ppm	65~85
	Sensitivity at 50°C	(Output at 50°C / Output at 20°C) % $_2$ at 10ppm	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 0°C 20	< 0~-0.8
cross sensitivity	H ₂ S	Gas sensitivity percentage at 20ppmH ₂ S	< -300
	NO ₂	Gas sensitivity percentage $_2$ measured at 10ppmNO	100
	NO	Gas sensitivity percentage measured at 50ppmNO	< 3
	SO ₂	Gas sensitivity percentage $_2$ at 20ppmSO	< -8
	CO	Gas sensitivity percentage measured at 400ppmCO	< 0.1
	H ₂	Gas sensitivity percentage $_2$ at 400ppmH	< 0.1
	C ₂ H ₄	Gas sensitivity percentage measured at 400ppm $_2$ C ₄	< 0.1
key parameter	temperature range	°C	-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

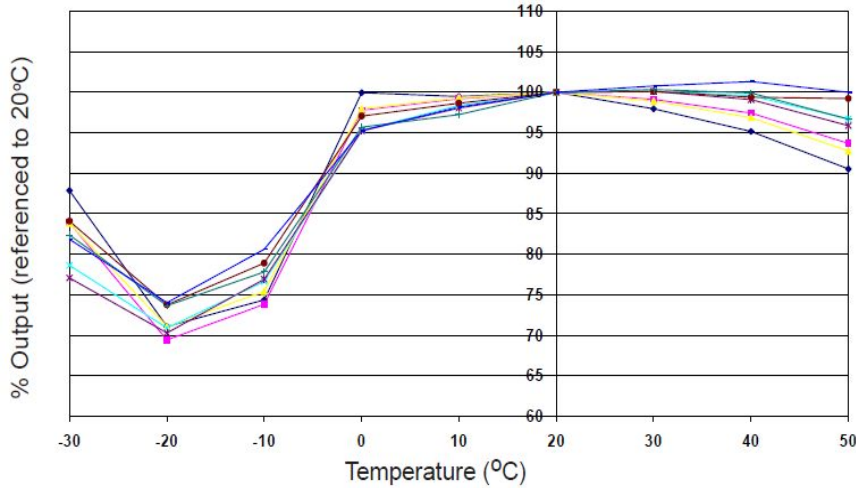


Figure 2 shows the change in sensor sensitivity caused by temperature changes.

The data were taken from a typical batch of sensors. Figure 2 shows the percentage of output (reference 20°C) mean and 95% confidence interval.

The measurement of chlorine gas is difficult, especially at high temperature.

Figure 3 Zero Temperature Characteristics

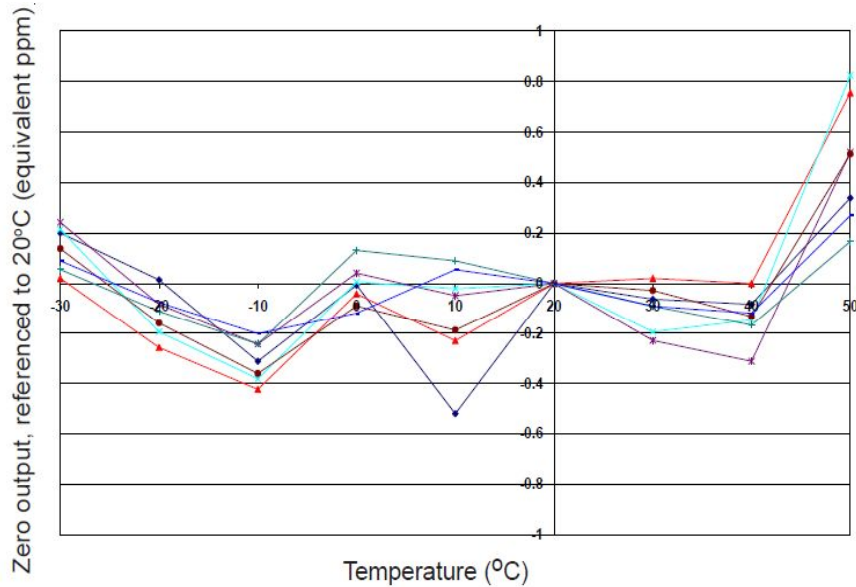


Figure 3 shows the change in zero point output caused by temperature changes, expressed as equivalent ppm values, with reference to the zero point at 20°C.

Data was taken from a typical batch of sensors.

Figure 4 Reaction of 10ppm Chlorine Gas, Affected by Temperature

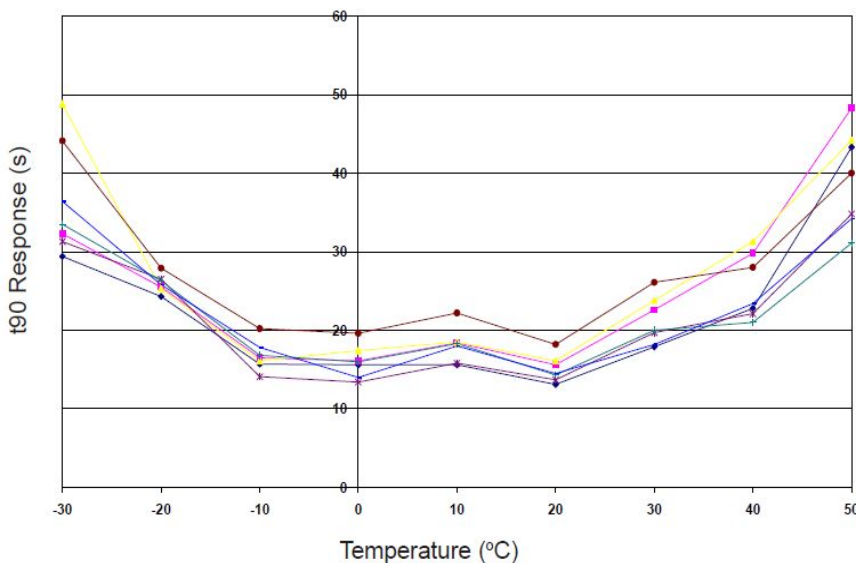


Figure 4 shows the response time temperature characteristics of a typical batch sensor.

Normally, the response time of a sensor increases as the temperature decreases. For chlorine sensors, the response time also increases at higher ambient temperatures, which reflects the chemical properties of the complex.

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