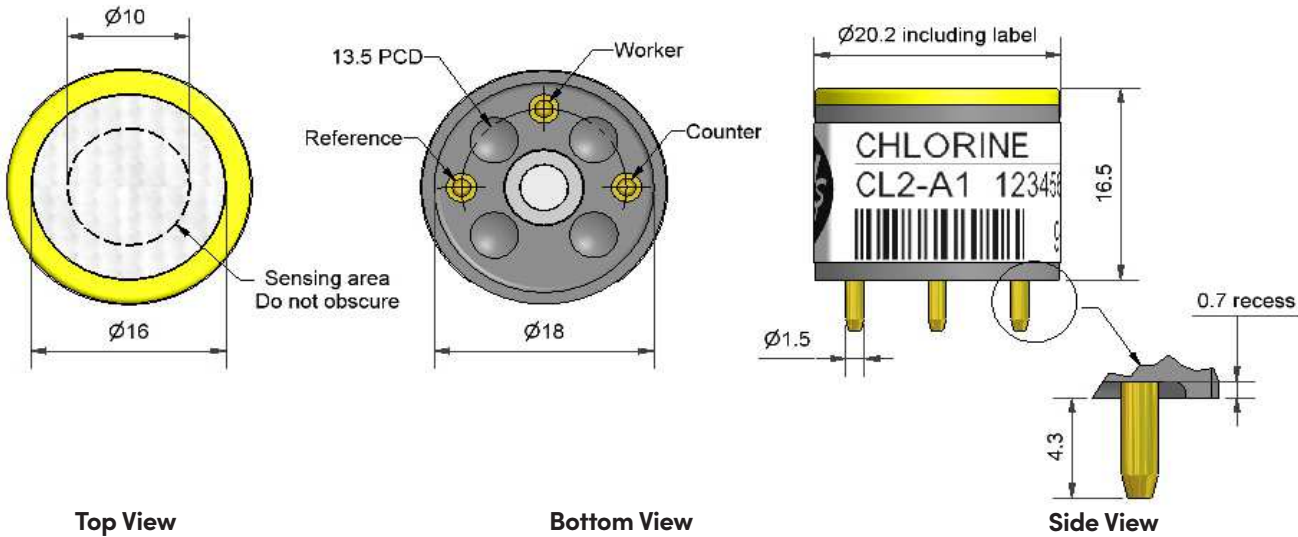


CL2-A1 Chlorine Sensor



Dimensions are in millimetres (± 0.1 mm).

Performance	Sensitivity	nA/ppm in 10ppm Cl ₂	-350 to -750	
	Response time	'90 (s) from zero to 10ppm Cl ₂ (33Ω load resistor)	< 60	
	Zero current	ppm equivalent in zero air	± 0.4	
	Resolution	RMS noise (ppm equivalent, 33Ω load resistor)	< 0.02	
	Range	ppm limit of performance warranty	20	
	Linearity	ppm error at full scale, linear at zero and 5ppm Cl ₂	± 1.5	
	Overgas limit	maximum ppm for stable response to gas pulse	50	
Lifetime	Zero drift	ppm equivalent change/year in lab air, monthly test	< 0.05	
	Sensitivity drift	% change/year in lab air, monthly test	< 10	
	Operating life	months until 80% original signal (24-month warranted)	> 24	
Environmental	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 10ppm Cl ₂	65 to 85	
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 10ppm Cl ₂	105 to 125	
	Zero @ -20°C	ppm equivalent change from 20°C	<± 0.2	
	Zero @ 50°C	ppm equivalent change from 20°C	< 0 to -0.8	
Cross Sensitivity	H ₂ S sensitivity	% measured gas @ 20ppm	H ₂ S	< -300
	NO ₂ sensitivity	% measured gas @ 10ppm	NO ₂	100
	NO sensitivity	% measured gas @ 50ppm	NO	< 3
	SO ₂ sensitivity	% measured gas @ 20ppm	SO ₂	< -8
	CO sensitivity	% measured gas @ 400ppm	CO	< 0.1
	H ₂ sensitivity	% measured gas @ 400ppm	H ₂	< 0.1
	C ₂ H ₄ sensitivity	% measured gas @ 400ppm	C ₂ H ₄	< 0.1
Key Specifications	Temperature range	°C	-20 to 50	
	Pressure range	kPa	80 to 120	
	Humidity range	%rh continuous	15 to 90	
	Storage period	months @ 3 to 20°C (stored in sealed pot)	6	
	Load resistor	Ω (for optimum performance)	33	
	Weight	g	< 6	



Figure 1 Sensitivity Temperature Dependence

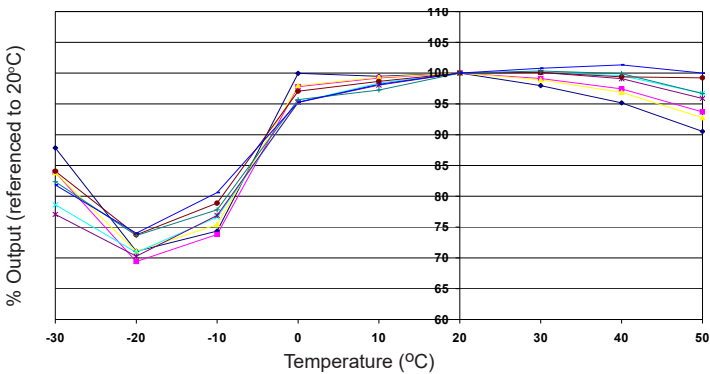


Figure 1 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

The mean and 95% confidence intervals are shown.

Chlorine gas tests are difficult, especially at higher temperatures.

Figure 2 Zero Temperature Dependence

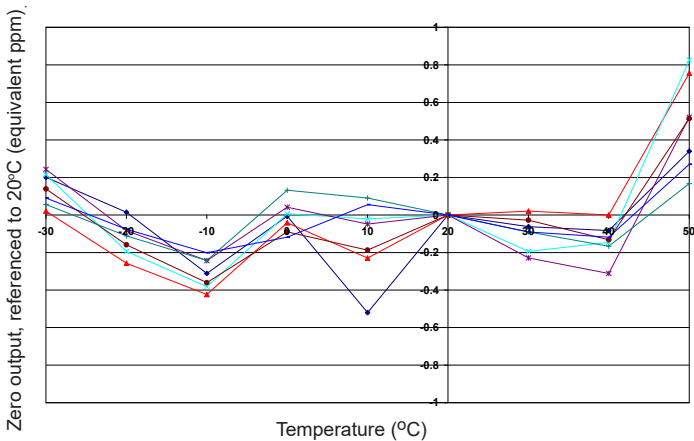


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

Figure 3 Response to 10ppm Cl₂ changes with temperature

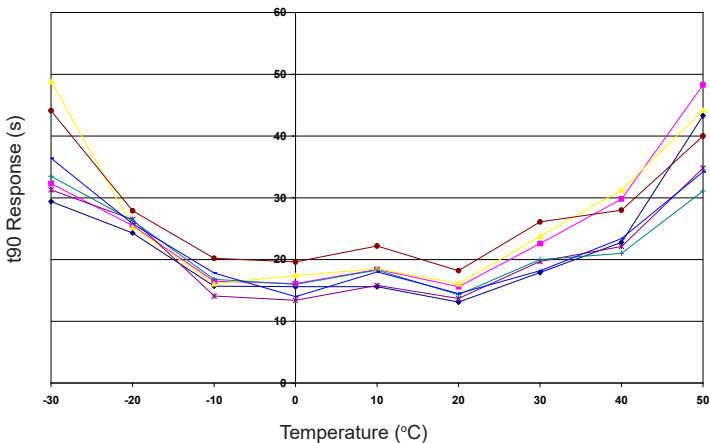


Figure 3 shows the response time temperature dependence for a typical batch of sensors.

Normally the response time increases as the temperature decreases, but for chlorine it also increases at higher temperatures, reflecting the complex chemistry.