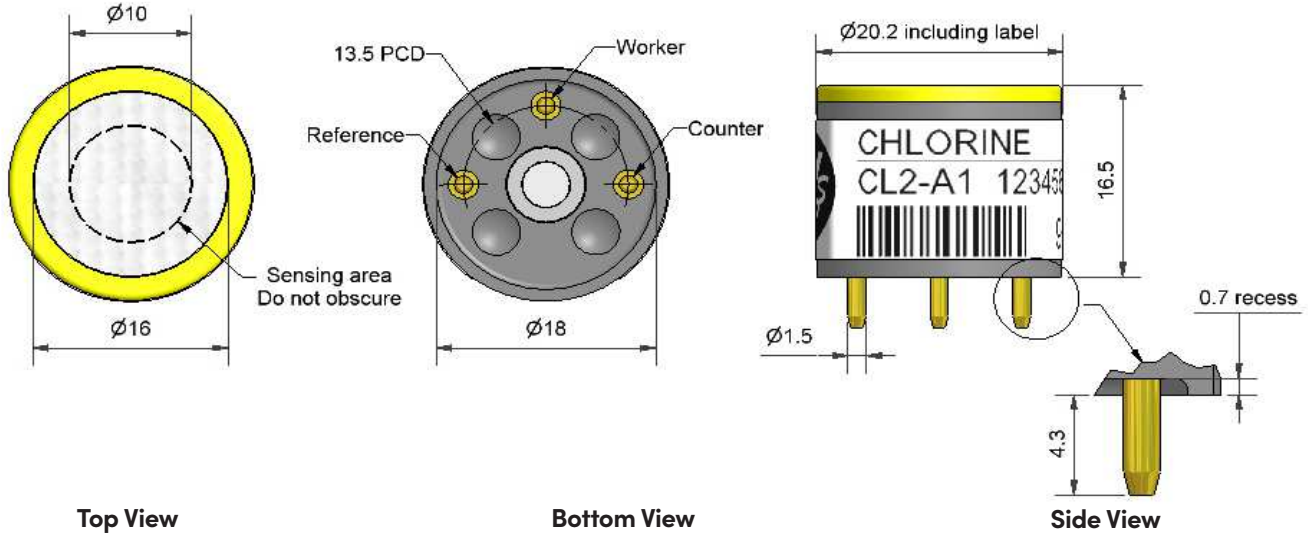


CL2-A1 Chlorine Sensor



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 (33 Ω load resistor)	< 60
Zero current	ppm equivalent in zero air	± 0.4
Resolution	RMS noise (ppm equivalent, 33 Ω 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

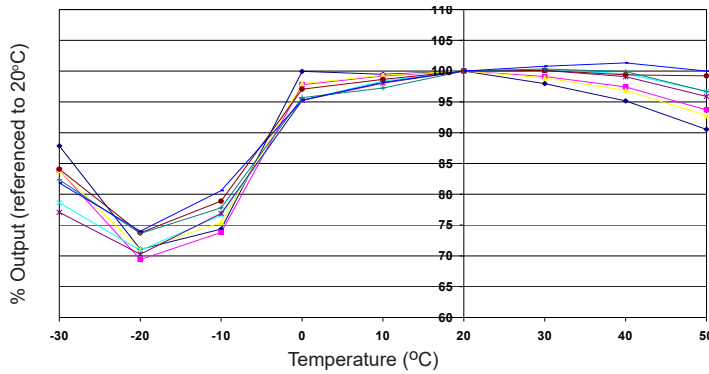


Figure 1 shows the variation in sensitivity caused by changes in temperature.

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

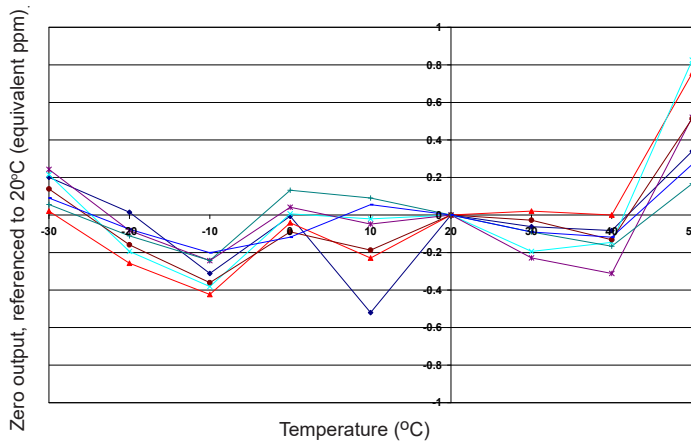


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

Figure 3 Response to 10ppm Cl₂ changes with temperature

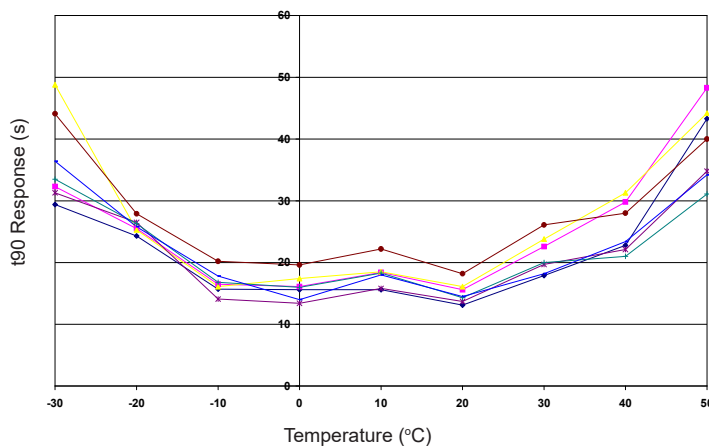


Figure 3 shows the response time temperature dependence for a typical batch of sensors.

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

At the end of the product's life, do not dispose of any electronic sensor, component or instrument in the domestic waste, but contact the instrument manufacturer, Alphasense or its distributor for disposal instructions. NOTE: all sensors are tested at ambient environmental conditions unless otherwise stated. As applications of use are outside our control, the information provided is given without legal responsibility. Customers should test under their own conditions, to ensure that the sensors are suitable for their own requirements.

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