

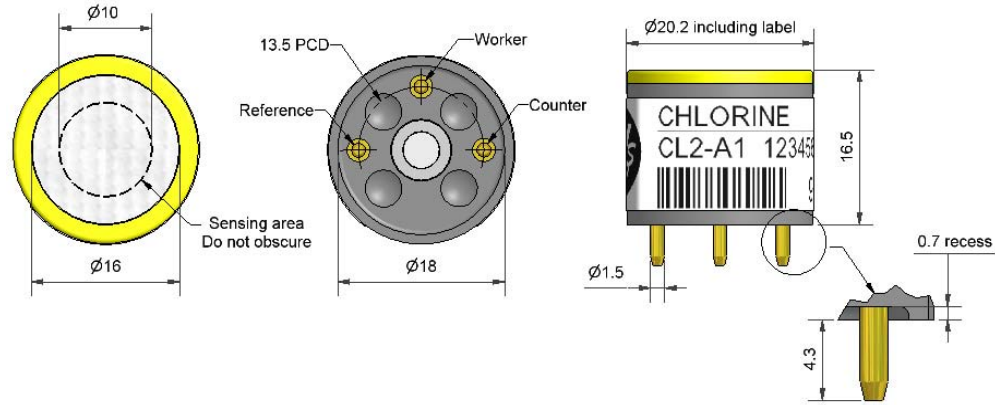


CL2-A1 Chlorine Sensor



PATENTED

Figure 1 CL2-A1 Schematic Diagram



All dimensions in millimetres (± 0.1 mm)

Top View

Bottom View

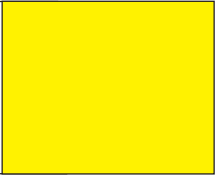
Side View

PERFORMANCE	Sensitivity	nA/ppm in 10ppm Cl ₂	-400 to -750
	Response time	t ₉₀ (s) from zero to 10ppm Cl ₂ (33 ω load resistor)	< 40
	Zero current	ppm equivalent in zero air	± 0.2
	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 range	maximum ppm for stable response to gas pulse	50
LIFETIME	Zero drift	ppm equivalent change/year in lab air, monthly test	< 0.2
	Sensitivity drift	% change/month in lab air, twice monthly test	< 4
	Operating life	months until 80% original signal (24 month warranted)	> 24
ENVIRONMENTAL	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 10ppm Cl ₂	80 to 95
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 10ppm Cl ₂	75 to 87
	Zero @ -20°C	ppm equivalent change from 20°C	< ± 0.2
	Zero @ 50°C	ppm equivalent change from 20°C	< 0 to -0.4
CROSS SENSITIVITY	NO ₂ sensitivity	% measured gas @ 10ppm	NO ₂ 100
	NO sensitivity	% measured gas @ 50ppm	NO < 0.5
	SO ₂ sensitivity	% measured gas @ 20ppm	SO ₂ < -2.5
	H ₂ sensitivity	% measured gas @ 400ppm	H ₂ < 0.1
	H ₂ S sensitivity	% measured gas @ 20ppm	H ₂ S < -40
	CO sensitivity	% measured gas @ 400ppm	CO < 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

NOTE: all sensors are tested at ambient environmental conditions, with 10 ohm load resistor, 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.



CL2-A1 Performance Data



Technical Specification

Figure 2 Sensitivity Temperature Dependence

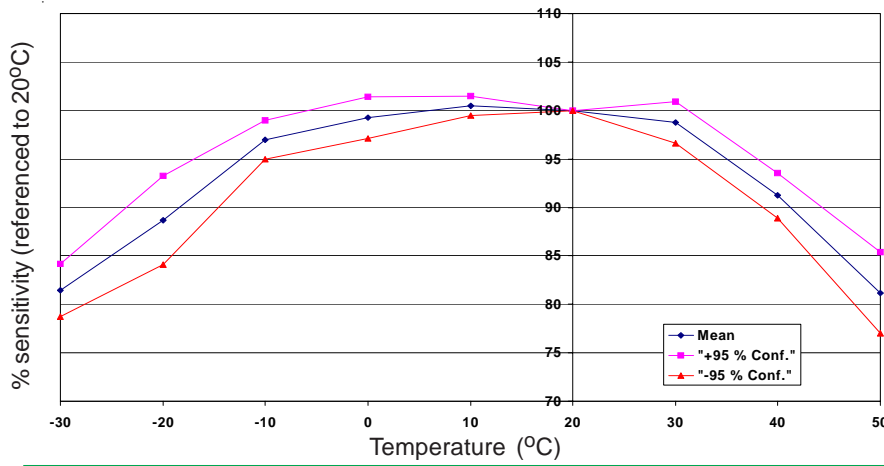


Figure 2 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors. The mean and ± 95% confidence intervals are shown.

Figure 3 Zero Temperature Dependence

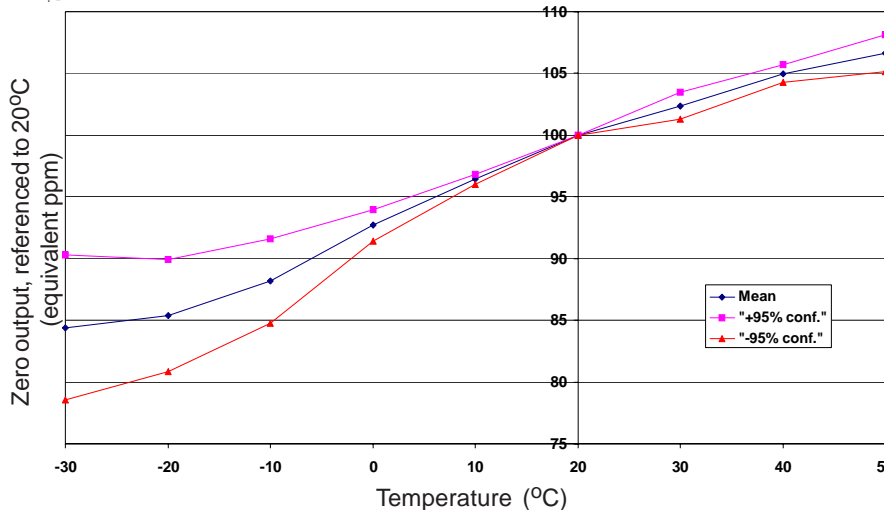


Figure 3 shows the variation in zero output caused by changes in temperature expressed as ppm gas equivalent.

This data is taken from a typical batch of sensors. The mean and ± 95% confidence intervals are shown.

Figure 4 Response to Changes in Relative Humidity

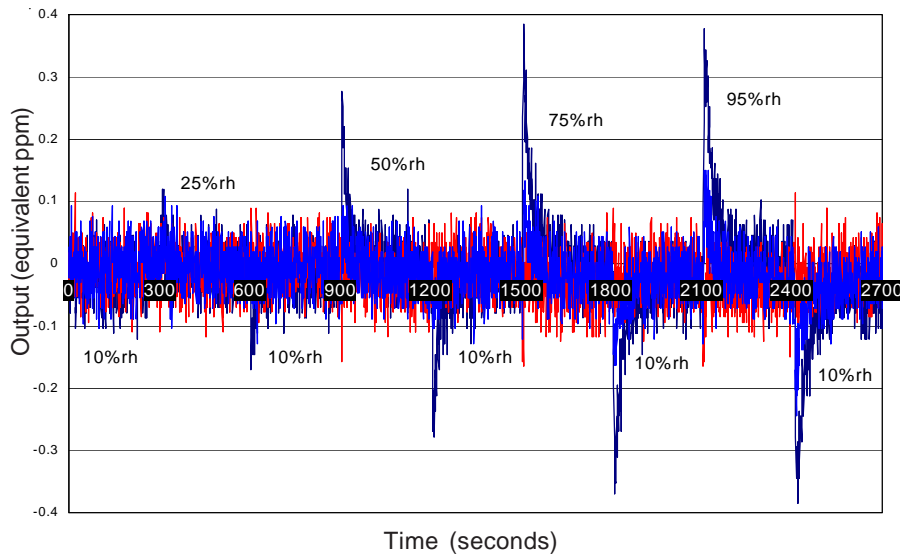


Figure 4 shows the effect on zero output with increasing step changes of relative humidity from 10% rh in steps to 25% rh, 50% rh, 75% rh and 95% rh.

The relative humidity level is returned to 10% between each upward exposure.

This sensors provides an exceptionally low transient response to large step changes in relative humidity.

For further information on the performance of this sensor, on other sensors in the range or any other subject, please contact Alphasense Ltd. For Application Notes visit "www.alphasense.com".