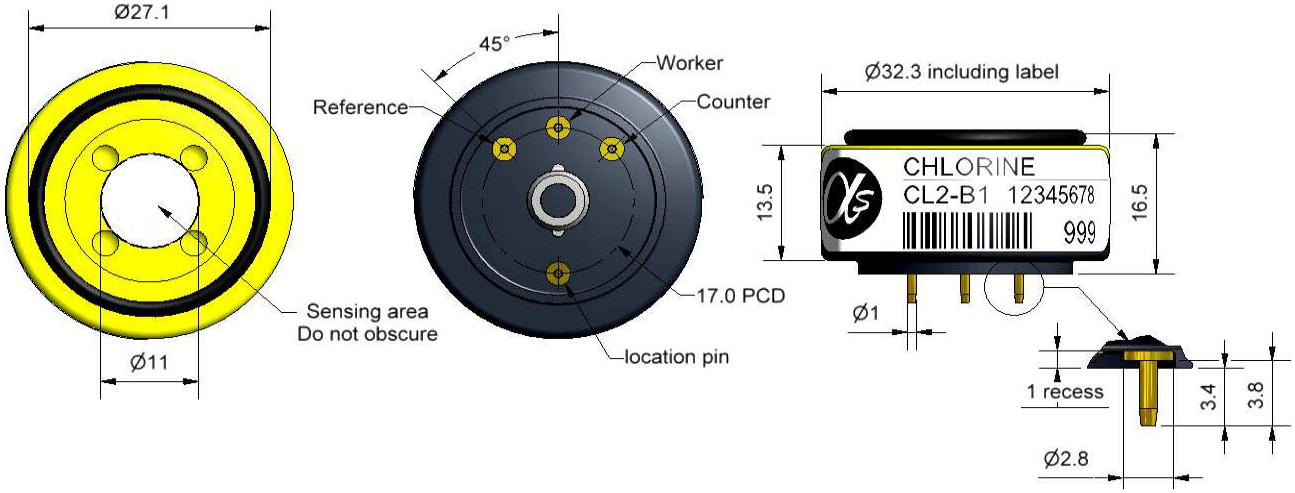
CL2-B1 Chlorine Sensor



Top View **Bottom View** **Side View**

Dimensions are in millimetres (± 0.1 mm).

Performance	Sensitivity	nA/ppm in 10ppm Cl_2		-600 to -1150
	Response time	t90 (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 10ppm Cl_2		< ± 0.2
	Overgas limit	maximum ppm for stable response to gas pulse		60
Lifetime	Zero drift	ppm equivalent change/year in lab air		< 0.03
	Sensitivity drift	% change/year in lab air, monthly test		< 6
	Operating life	months until 80% original signal (24-month warranted)		> 24
Environmental	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 10ppm		70 to 90
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 10ppm		90 to 105
	Zero @ -20°C	ppm equivalent change from 20°C		< 0 to 0.1
	Zero @ 50°	ppm equivalent change from 20°C		< 0 to -1
Cross Sensitivity	H_2S sensitivity	% measured gas @ 20ppm	H_2S	< -300
	NO_2 sensitivity	% measured gas @ 10ppm	NO_2	< 120
	NO sensitivity	% measured gas @ 50ppm	NO	< 1
	SO_2 sensitivity	% measured gas @ 20ppm	SO_2	< -1
	CO sensitivity	% measured gas @ 400ppm	CO	< 0.1
	H_2 sensitivity	% measured gas @ 400ppm	H_2	< 0.1
	C_2H_4 sensitivity	% measured gas @ 400ppm	C_2H_4	< 0.1
	NH_3 sensitivity	% measured gas @ 20ppm	NH_3	< 0.1
	CO_2 sensitivity	% measured gas @ 5% (Vol)	CO_2	0
Key Specifications	Temperature range	°C		-20 to 50
	Pressure range	kPa		80 to 120
	Humidity range	% rh continuous (see note below)		15 to 90
	Storage period	months @ 3 to 20°C (stored in sealed pot)		6
	Load resistor	Ω (for optimum performance)		33
	Weight	g		< 13

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

Figure 1 Sensitivity Temperature Dependence

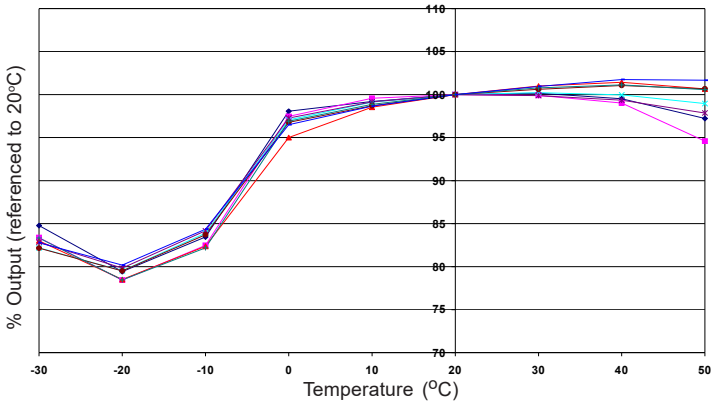

Figure 1 shows the variation in sensitivity caused by changes in temperature.

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

Chlorine gas tests can be difficult and non-repeatable, especially at high temperatures.

Figure 2 Zero Temperature Dependence

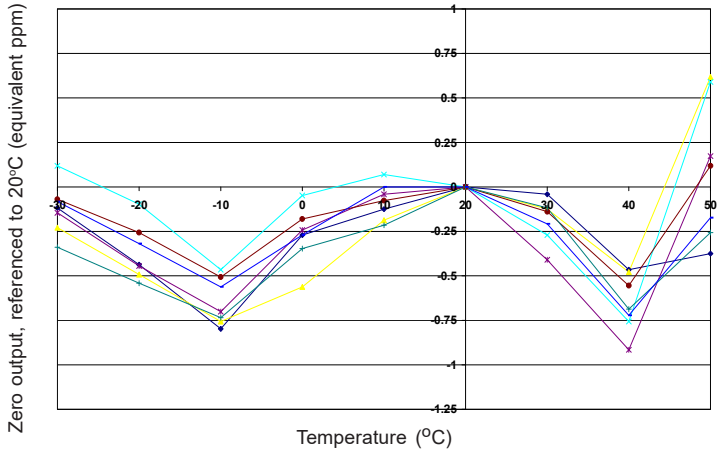

Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

Figure 3 Response to high gas concentrations

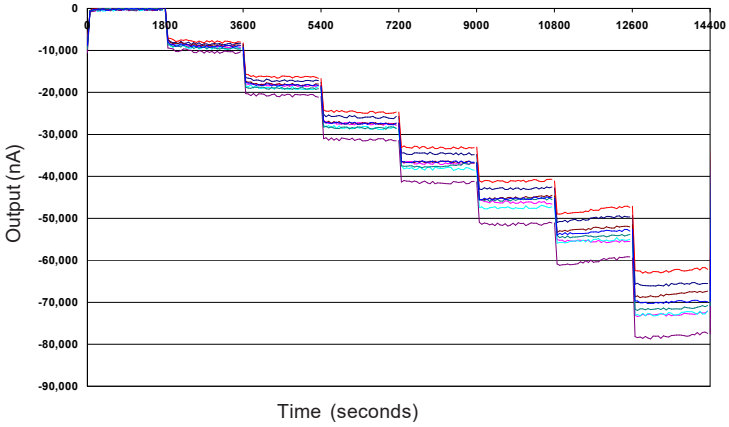

Figure 3 shows the CL_2-B1 stable response to chlorine gas, up to 80ppm. Sensors recover without any performance change when exposed to high gas concentrations for short periods.

Note: Above 85% rh and 40°C a maximum continuous exposure period of 10 days is warranted. Where such exposure occurs the sensor will recover normal electrolyte volumes when allowed to rest at lower % rh and temperature levels for several days.

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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