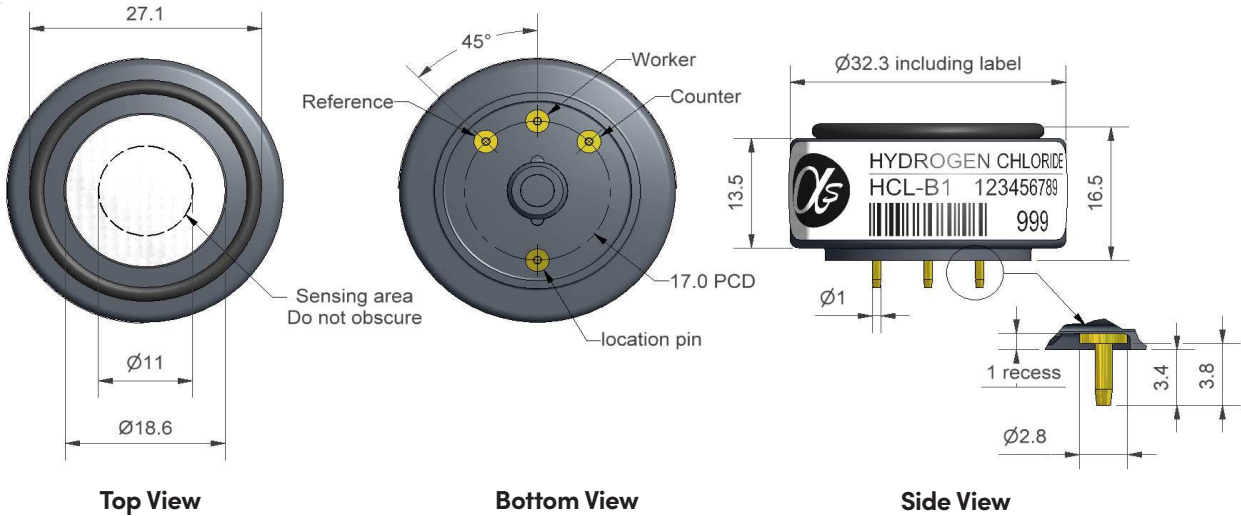


HCL-B1 Hydrogen Chloride Sensor



Dimensions are in millimetres (± 0.1 mm).

Performance	Sensitivity	nA/ppm in 25ppm HCl	120 to 250	
	Response time	t90 (s) from zero to 25ppm HCl	< 200	
	Zero current	ppm equivalent in zero air	-0.6 to 5	
	Resolution	RMS noise (ppm equivalent)	< 0.1	
	Range	ppm HCl limit of performance warranty	100	
	Linearity	ppm error at full scale, linear at zero, 40ppm HCl	0 to 6	
	Overgas limit	maximum ppm for stable response to gas pulse	200	
Lifetime	Zero drift	ppm equivalent change/year in lab air	nd	
	Sensitivity drift	% change/year in lab air, monthly test	nd	
	Operating life	months until 80% original signal (12-month warranted)	nd	
Environmental	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 25ppm HCl	60 to 90	
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 25ppm HCl	100 to 108	
	Zero @ -20°C	ppm equivalent change from 20°C	< +0 to -1.0	
	Zero @ 50°C	ppm equivalent change from 20°C	< +0.5 to +2.5	
Cross-sensitivity	H ₂ S sensitivity	% measured gas @ 20ppm	H ₂ S	< 280
	NO ₂ sensitivity	% measured gas @ 50ppm	NO ₂	< -150
	Cl ₂ sensitivity	% measured gas @ 10ppm	Cl ₂	< -100
	NO sensitivity	% measured gas @ 50ppm	NO	< 2
	SO ₂ sensitivity	% measured gas @ 20ppm	SO ₂ (transit peak)	< 1
	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
	NH ₃ sensitivity	% measured gas @ 20ppm	NH ₃	< 0.1
	CO ₂ sensitivity	% measured gas @ 5%	CO ₂	< 0.1
Key Specifications	Temperature range	°C	-30 to 50	
	Pressure range	kPa	80 to 120	
	Humidity range	% rh continuous	15 to 90	
	Storage period	months @ 3 to 20°C (stored in original container)	6	
	Load resistor	Ω (recommended)	10 to 33	
	Bias voltage	mV	not required	
	Weight	g	< 13	

Figure 1 Sensitivity Temperature Dependence

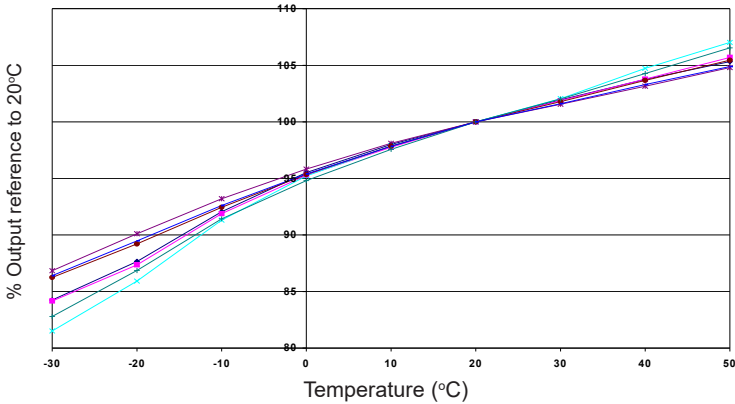


Figure 1 shows the variation of sensitivity at 25ppm HCl caused by changes in temperature.

Figure 2 Zero Temperature Dependence

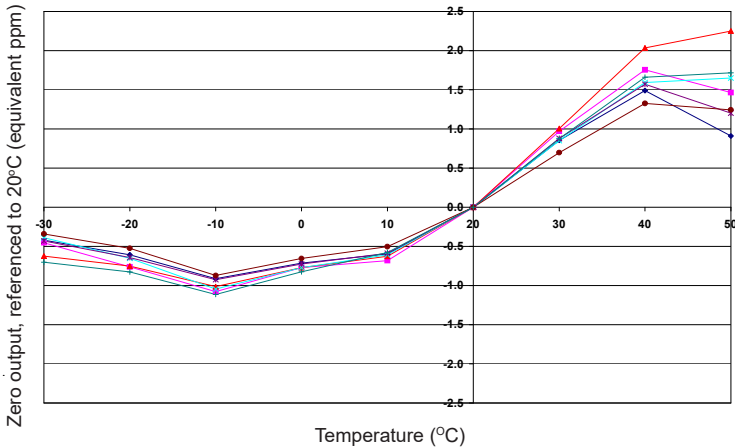
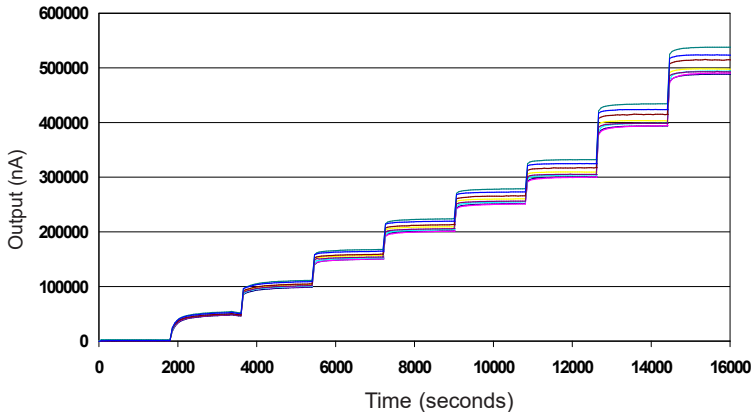


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.
This data is taken from a typical batch of sensors.

Figure 3 Response to 200ppm HCl



Sensor shows good response to 200ppm HCl.