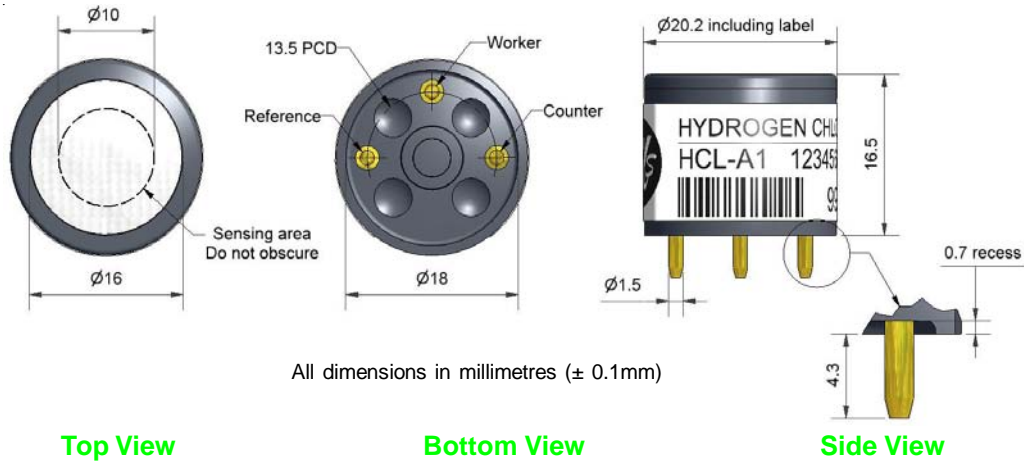


HCL-A1 Hydrogen Chloride Sensor



PATENTED

Figure 1 HCL-A1 Schematic Diagram



Technical Specification

PERFORMANCE	Sensitivity	nA/ppm in 25ppm HCl	50 to 110
	Response time	t_{90} (s) from zero to 25ppm HCl	<300
	Zero current	ppm equivalent in zero air	<6
	Resolution	RMS noise (ppm equivalent)	<2
	Range	ppm HCl limit of performance warranty	20
	Linearity	ppm error at full scale, linear at zero, 25ppm HCl	0 to 6
	Overgas limit	maximum ppm for stable response to gas pulse	nd

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 @ 0°C	(output @ 0°C/output @ 20°C) @ 25ppm HCl	50 to 85
	Sensitivity @ 50°C	(output @ 50°C/output @ 20°C) @ 25ppm HCl	102 to 110
	Zero @ -20°C	ppm equivalent change from 20°C	
	Zero @ 50°C	ppm equivalent change from 20°C	

CROSS SENSITIVITY	H ₂ S	sensitivity	% measured gas @ ppm H ₂ S	<250
	NO ₂	sensitivity	% measured gas @ ppm NO ₂	<-200
	Cl ₂	sensitivity	% measured gas @ ppm Cl ₂	<-70
	NO	sensitivity	% measured gas @ ppm NO	<2
	SO ₂	sensitivity	% measured gas @ ppm SO ₂	<10
	CO	sensitivity	% measured gas @ ppm CO	<0.1
	H ₂	sensitivity	% measured gas @ ppm H ₂	<0.1
	C ₂ H ₄	sensitivity	% measured gas @ ppm C ₂ H ₄	<1
	NH ₃	sensitivity	% measured gas @ ppm NH ₃	<0.1
CO ₂	sensitivity	% measured gas @ 5% volume CO ₂	<0.1	

KEY SPECIFICATIONS	Temperature range	°C	0 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	<6

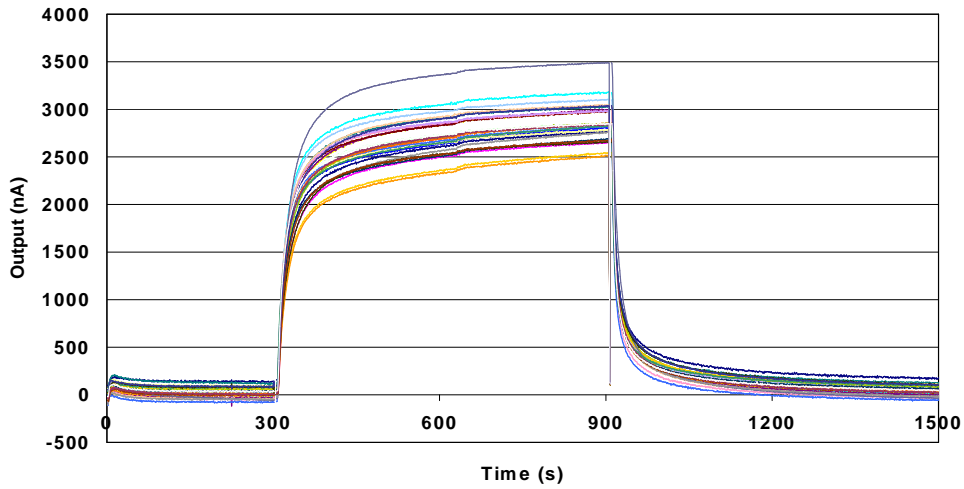


NOTE: all sensors are tested at ambient environmental conditions, with 10 ohm load resistor, unless otherwise stated. As applications of use are outside our control, the information provided is given without legal responsibility. Customers should test under their own conditions, to ensure that the sensors are suitable for their own requirements.

HCL-A1 Performance Data

Technical Specification

Figure 2 Response to HCl



Sensor shows good response to 25ppm HCl.

Figure 3 Zero Tempco

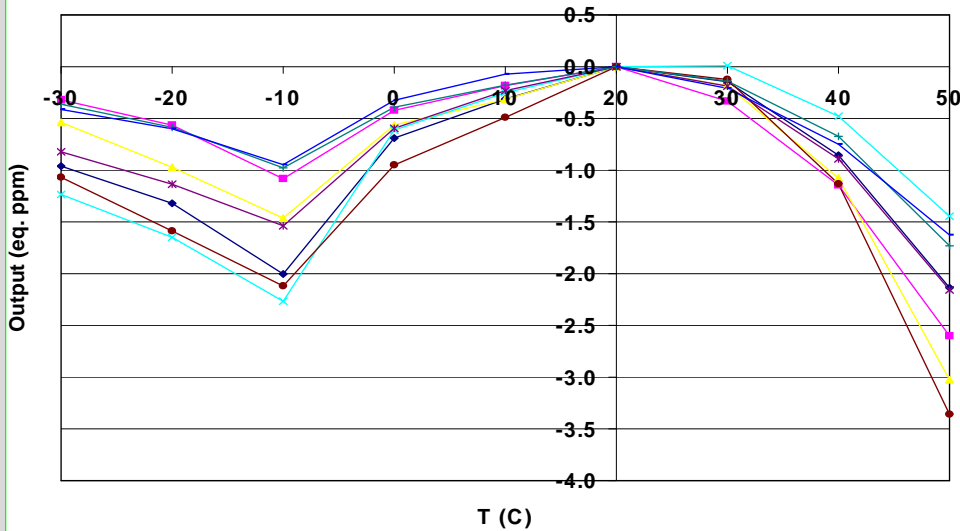


Figure 3 shows zero offset is temperature dependent

Figure 4 Sensitivity

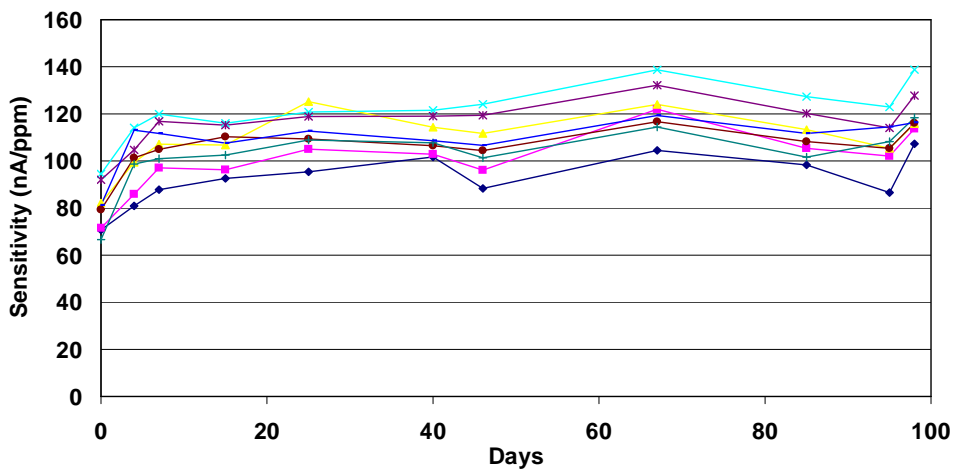


Figure 4 shows sensitivity increases initially, then is stable.