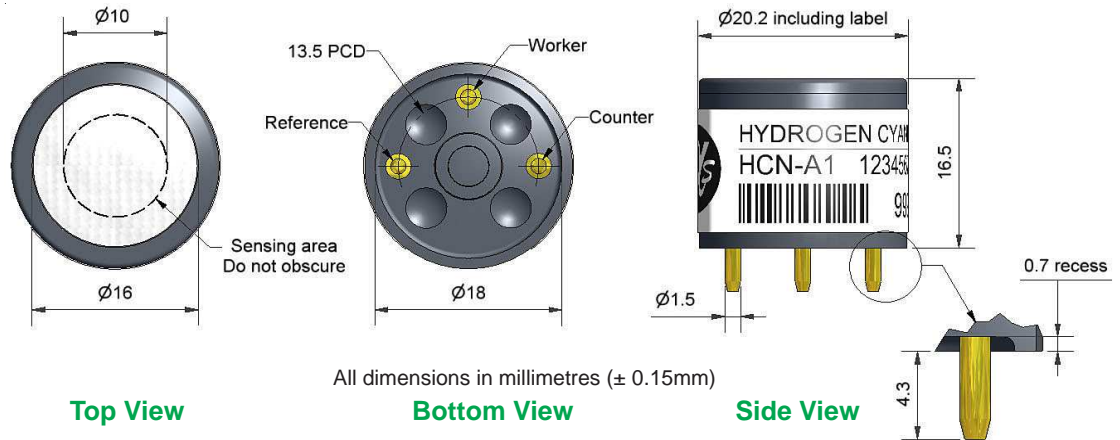




HCN-A1 Hydrogen Cyanide Sensor



Figure 1 HCN-A1 Schematic Diagram



Technical Specification

PERFORMANCE	Sensitivity		nA/ppm in 30ppm HCN	55 to 85
		Response time	t_{90} (s) from zero to 30ppm HCN	
	Zero current	ppm equivalent in zero air		< ± 2
	Resolution	RMS noise (ppm equivalent)		< 0.05
	Range	ppm HCN limit of performance warranty		100
	Linearity	ppm error at full scale, linear at zero, 40ppm HCN		4 to 8
	Overgas limit	maximum ppm for stable response to gas pulse		150

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)	> 12

ENVIRONMENTAL			
Sensitivity @ -10°C	(output @ -10°C/output @ 20°C) @ 30ppm HCN		75 to 95
Sensitivity @ 50°C	(output @ 50°C/output @ 20°C) @ 30ppm HCN		105 to 120
Zero @ -20°C	ppm equivalent change from 20°C		< 0 to 1
Zero @ 50°C	ppm equivalent change from 20°C		< ± 1

CROSS SENSITIVITY	H ₂ S sensitivity	%measured gas @ 20ppm	H ₂ S	< 300
	NO ₂ sensitivity	%measured gas @ 10ppm	NO ₂	< -180
	Cl ₂ sensitivity	%measured gas @ 10ppm	Cl ₂	< -12
	NO sensitivity	%measured gas @ 50ppm	NO	< 1
	SO ₂ sensitivity	%measured gas @ 20ppm	SO ₂	< 10 (transient)
	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 @ 80ppm	C ₂ H ₄	< 0.1
	NH ₃ sensitivity	%measured gas @ 20ppm	NH ₃	< 1
	CO ₂ sensitivity	%measured gas @ 5% volume CO ₂	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	< 6



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.

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HCN-A1 Performance Data

Technical Specification

Figure 2 Sensitivity Temperature Dependence

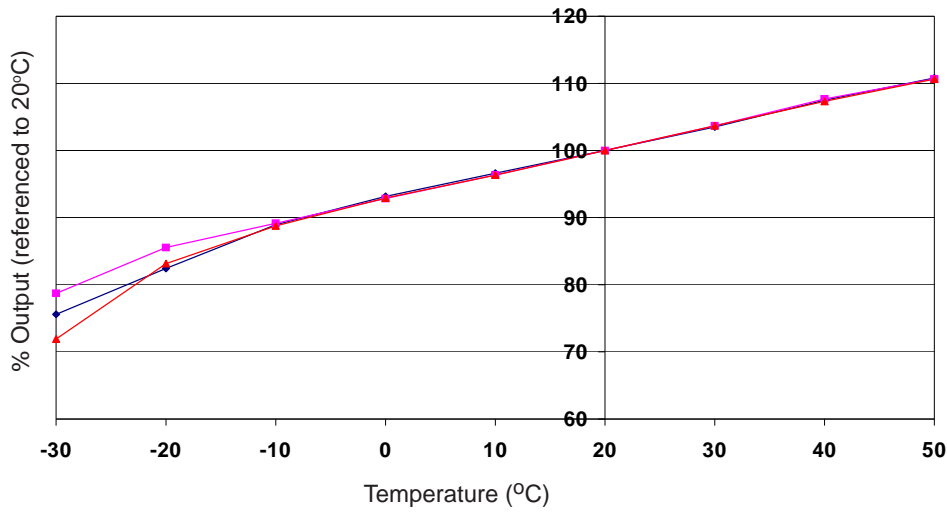


Figure 2 shows the variation in sensitivity caused by changes in temperature.

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

Figure 3 Zero Temperature Dependence

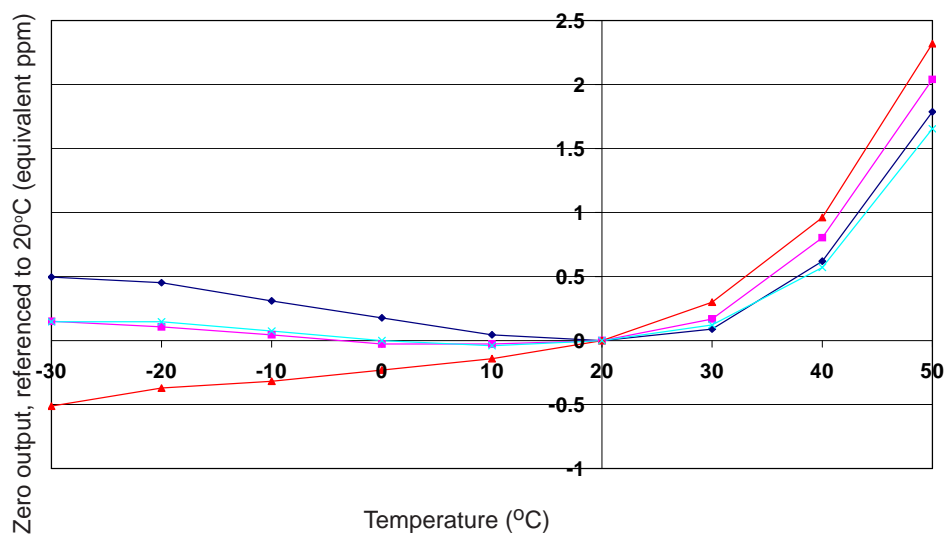
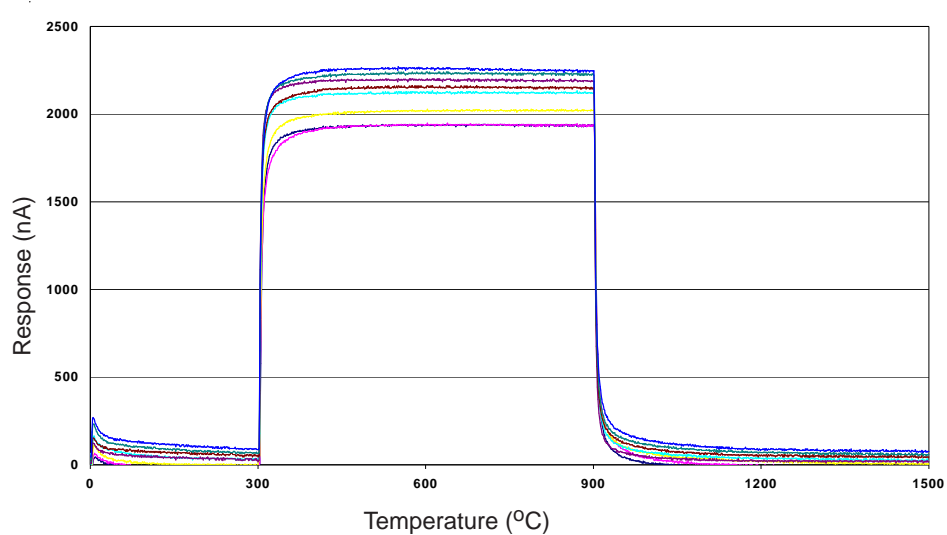


Figure 3 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

Figure 4 Response to 30ppm HCN



The HCN-A1 shows fast response and stable output when exposed to 30ppm HCN.

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