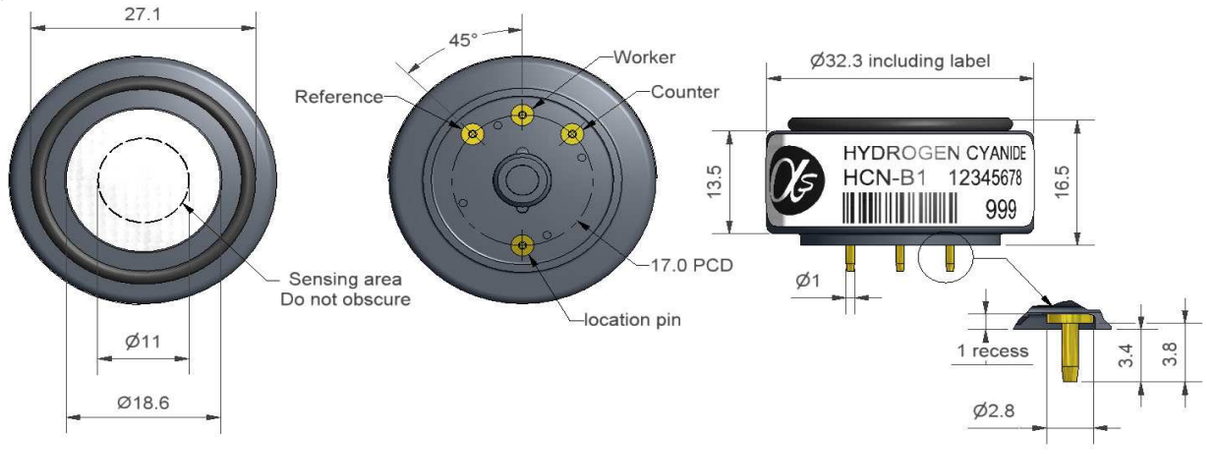
alphasense
AMETEK®

Technical specifications Version 1.0

HCN-B1 Hydrogen Cyanide Sensor



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

Dimensions are in millimetres (± 0.1 mm).

Performance	Sensitivity	nA/ppm in 30ppm HCN		65 to 140
	Response time	t90 (s) from zero to 30ppm HCN		< 120
	Zero current	ppm equivalent in zero air		< -2.5 to 10
	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		0 to 4
	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)		> 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		100 to 115
	Zero @ -20°C	ppm equivalent change from 20°C		< 0 to -2
	Zero @ 50°C	ppm equivalent change from 20°C		< 0 to 2
Cross-sensitivity	H_2S sensitivity	% measured gas @ 20ppm	H_2S	< 400
	NO_2 sensitivity	% measured gas @ 10ppm	NO_2	< -120
	Cl_2 sensitivity	% measured gas @ 10ppm	Cl_2	< 25
	NO sensitivity	% measured gas @ 50ppm	NO	< 1
	SO_2 sensitivity	% measured gas @ 20ppm	SO_2	< 3 (transient)
	CO sensitivity	% measured gas @ 400ppm	CO	< 0.1
	H_2 sensitivity	% measured gas @ 400ppm	H_2	< 0.1
	C_2H_4 sensitivity	% measured gas @ 80ppm	C_2H_4	< 0.1
	NH_3 sensitivity	% measured gas @ 20ppm	NH_3	< 2
	CO_2 sensitivity	% measured gas @ 5% volume	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

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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

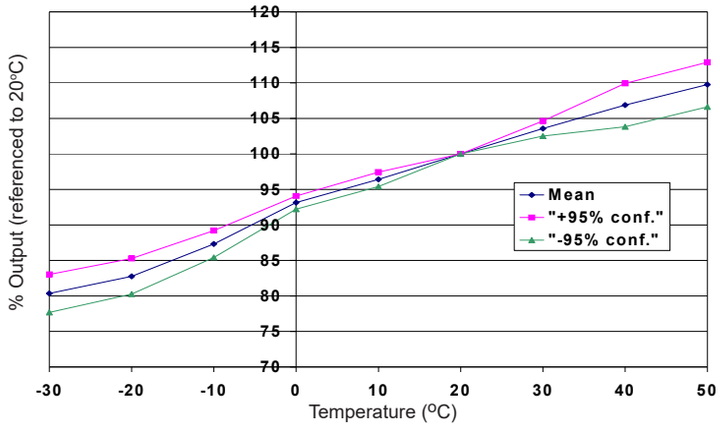


Figure 1 shows the variation in sensitivity caused by changes in temperature.

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

Figure 2 Zero Temperature Dependence

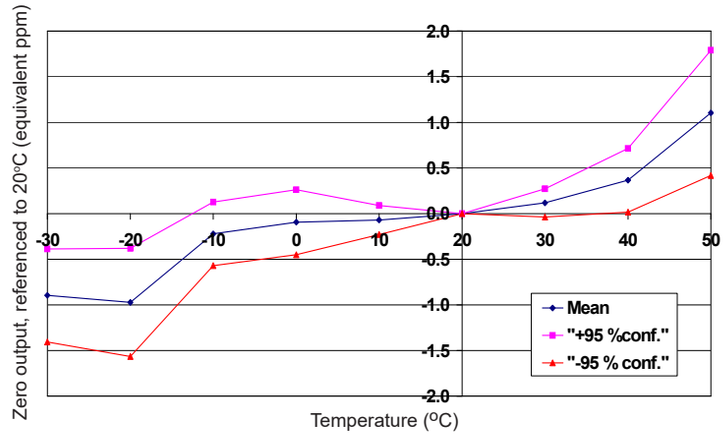
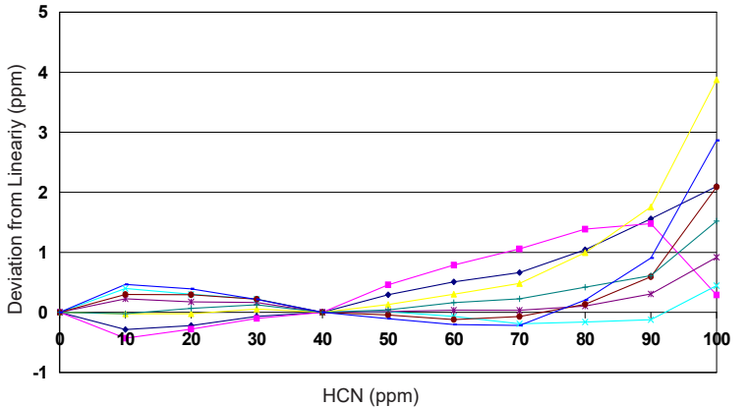


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

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

Figure 3 Deviation from Linearity



The HCN-B1 shows linear performance to 100ppm HCN.