

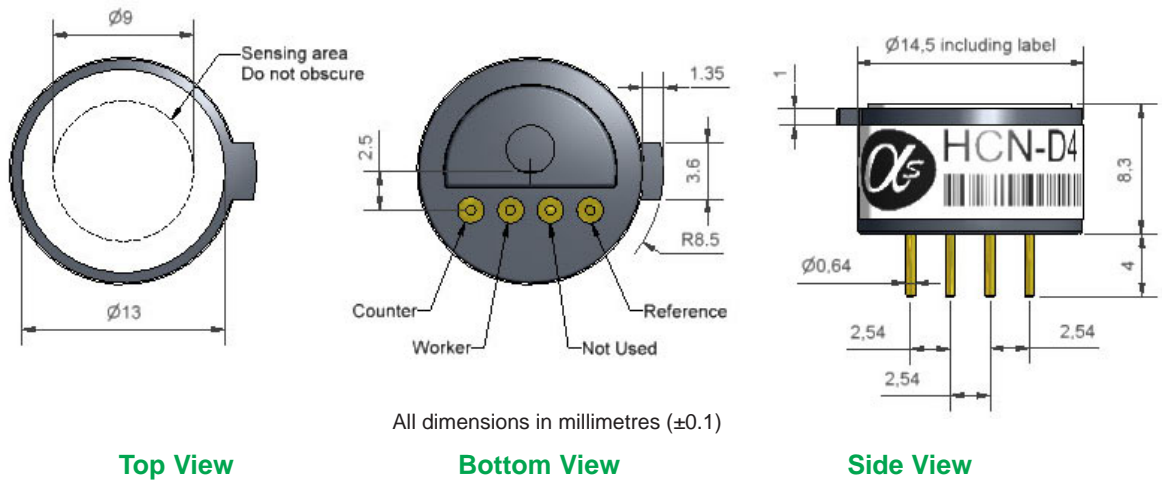
HCN-D4 Hydrogen Cyanide Sensor

Miniature Size



PATENTED

Figure 1 HCN-D4 Schematic Diagram



Technical Specification

PERFORMANCE	Sensitivity	nA/ppm 20ppm HCN	25 to 40	
	Response time	t_{90} (s) from zero to 20ppm HCN	< 35	
	Zero current	ppm equivalent in zero air	± 1.5	
	Resolution	RMS noise (ppm equivalent)	< 0.3	
	Range	ppm limit of performance warranty	50	
	Linearity	ppm error at full scale, linear at zero, 200ppm HCN	0 to -4	
	Overgas limit	maximum ppm for stable response to gas pulse	250	
	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 @ -20°C	% (output @ -20°C/output @ 20°C) @ 20ppm	80 to 90	
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 20ppm	105 to 120	
	Zero @ -20°C	ppm equivalent change from 20°C	-1.5 to +0.5	
	Zero @ 50°C	ppm equivalent change from 20°C	-1.0 to +1.5	
CROSS SENSITIVITY	H ₂ S sensitivity	% measured gas @ 20ppm H ₂ S	250	
	NO ₂ sensitivity	% measured gas @ 10ppm NO ₂	< -25	
	Cl ₂ sensitivity	% measured gas @ 10ppm Cl ₂	< 6	
	NO sensitivity	% measured gas @ 50ppm NO	< -10	
	SO ₂ sensitivity	% measured gas @ 20ppm SO ₂	< 50	
	CO sensitivity	% measured gas @ 400ppm CO	0	
	H ₂ sensitivity	% measured gas @ 400ppm H ₂	0.1	
	C ₂ H ₄ sensitivity	% measured gas @ 400ppm C ₂ H ₄	0	
KEY SPECIFICATIONS	Temperature range	°C	-20 to 50	
	Pressure range	kPa	80 to 120	
	Humidity range	%rh (see note below)	15 to 90	
	Storage period	months @ 3 to 20°C (stored in sealed pot)	6	
	Load resistor	Ω (recommended)	10 to 47	
	Weight	g	< 2	

Note: Above 85% rh and 40°C a maximum continuous exposure period of 10 days is warranted. >40°C (50°C) limited exposure.



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.

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HCN-D4 Performance Data

Figure 2 Sensitivity temperature dependence

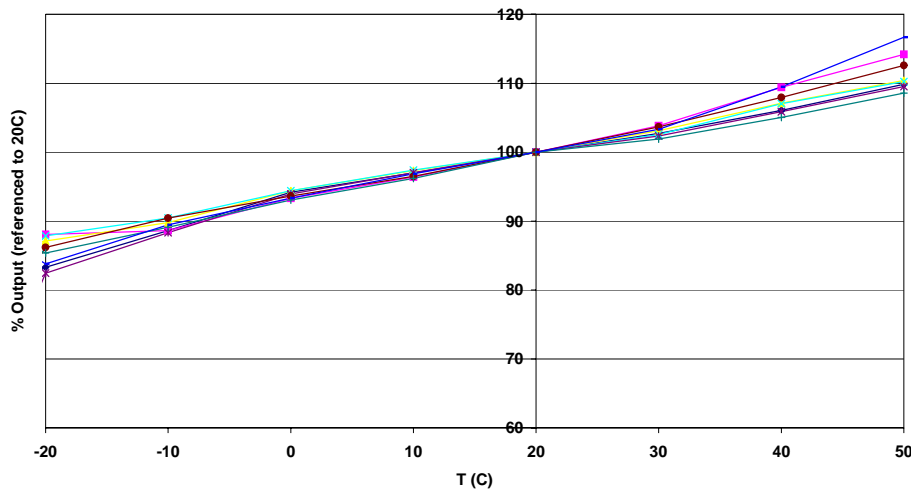


Figure 2 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of HCN-D4 sensors.

Figure 3 Linearity

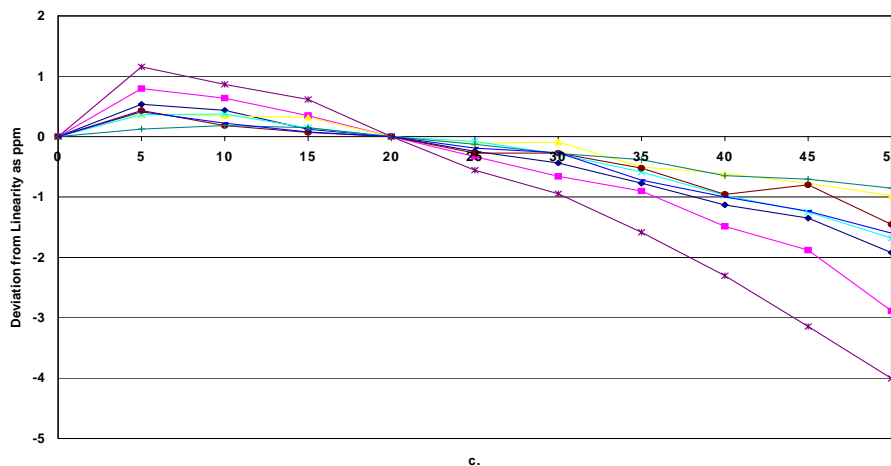


Figure 3 shows the deviation from linearity from 0 to 50 ppm HCN.

This data is taken from a typical batch of HCN-D4 sensors.

Figure 4 Response to 25ppm HCN

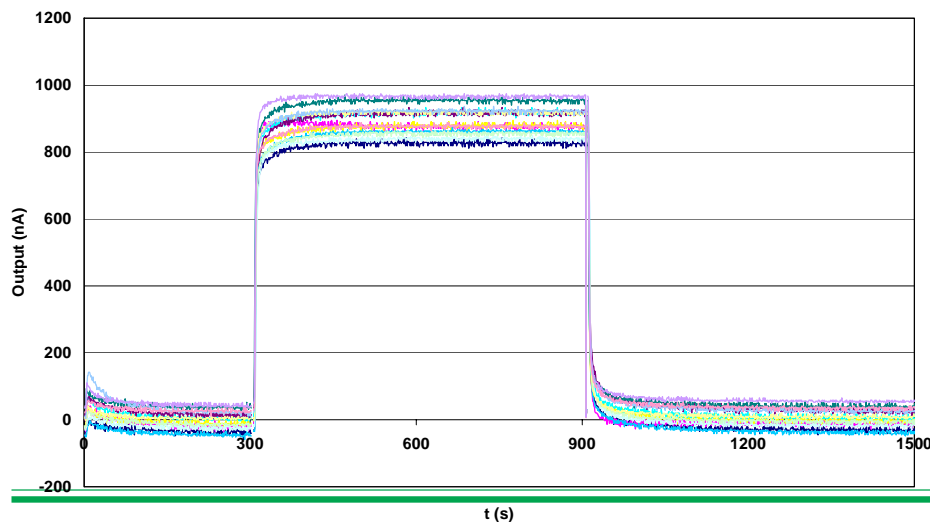


Figure 4 shows response to first zero air, then 25 ppm HCN and then zero air.

Fast response time and good zero stability give confidence that the sensor will respond rapidly and reliably to a gas emergency.

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