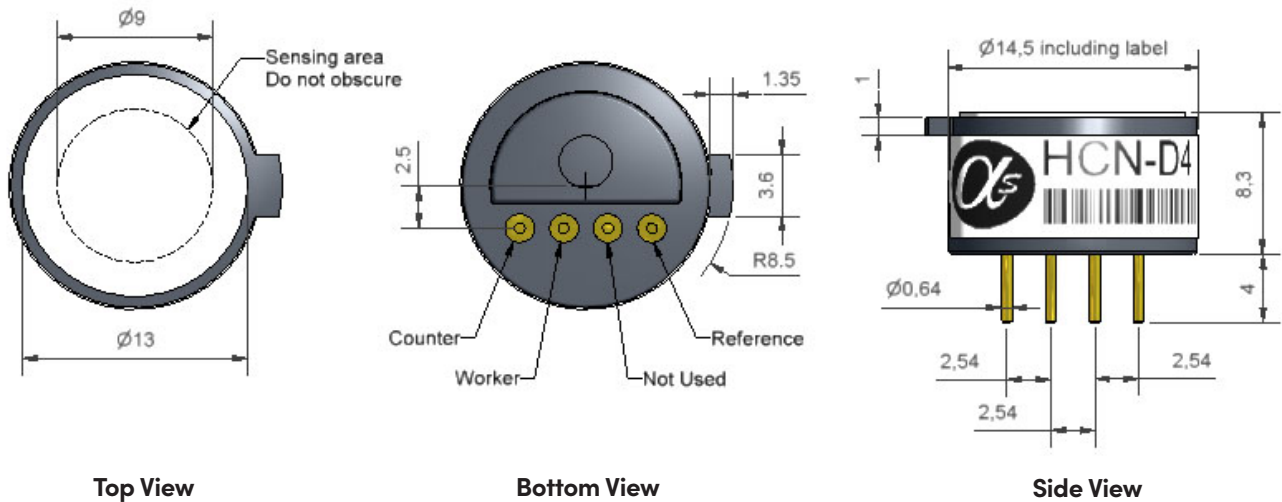


HCN-D4 Hydrogen Cyanide Sensor – Miniature Size



Dimensions are in millimetres (± 0.1 mm).

Performance

Sensitivity	nA/ppm 20ppm HCN	30 to 50
Response time	t90 (s) from zero to 20ppm HCN	< 50
Zero current	ppm equivalent in zero air	< ± 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 @ -10°C	% (output @ -20°C/output @ 20°C) @ 20ppm	55 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
Zero @ 50°C	ppm equivalent change from 20°C	< ± 1

Cross-sensitivity

H ₂ S sensitivity	% measured gas @ 20ppm	H ₂ S	< 50
NO ₂ sensitivity	% measured gas @ 10ppm	NO ₂	< -120
Cl ₂ sensitivity	% measured gas @ 10ppm	Cl ₂	< -40
NO sensitivity	% measured gas @ 50ppm	NO	< -1
SO ₂ sensitivity	% measured gas @ 20ppm	SO ₂	< 25
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	< 5

Key Specifications

Temperature range	°C	-10 to 50
		-30 to -10 with reduced sensitivity
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

Figure 1 Sensitivity Temperature Dependence

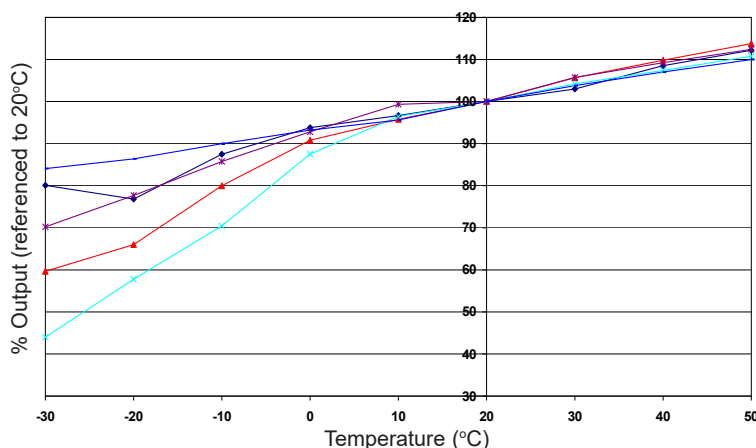


Figure 1 shows the variation in sensitivity caused by changes in temperature.

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

Figure 2 Zero Temperature Dependence

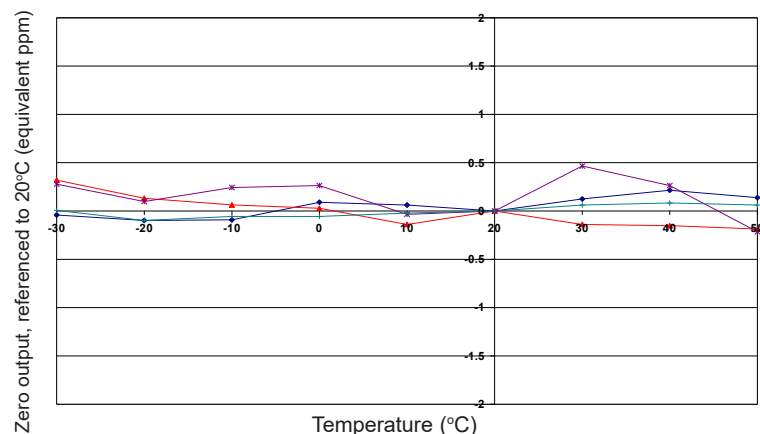


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

Figure 3 Response to 25ppm HCN

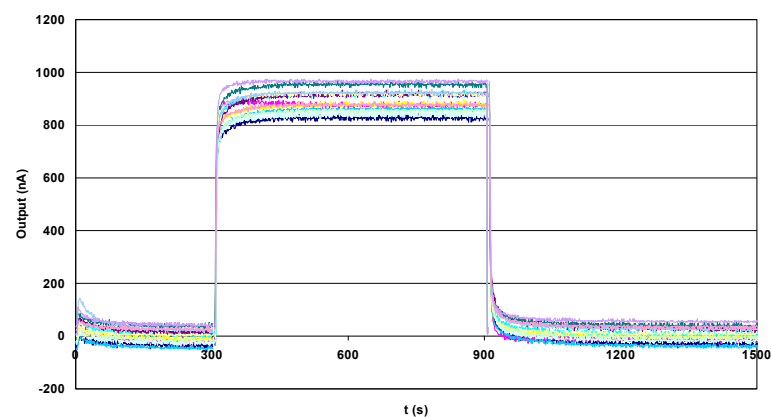


Figure 3 shows response to first zero air, then 25ppm HCN and then zero air.

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

Note: Above 85% rh and 40°C a maximum continuous exposure period of 10 days is warranted. Where such exposure occurs the sensor will recover normal electrolyte volumes when allowed to rest at lower % rh and temperature levels for several days.

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. NOTE: all sensors are tested at ambient environmental conditions 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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