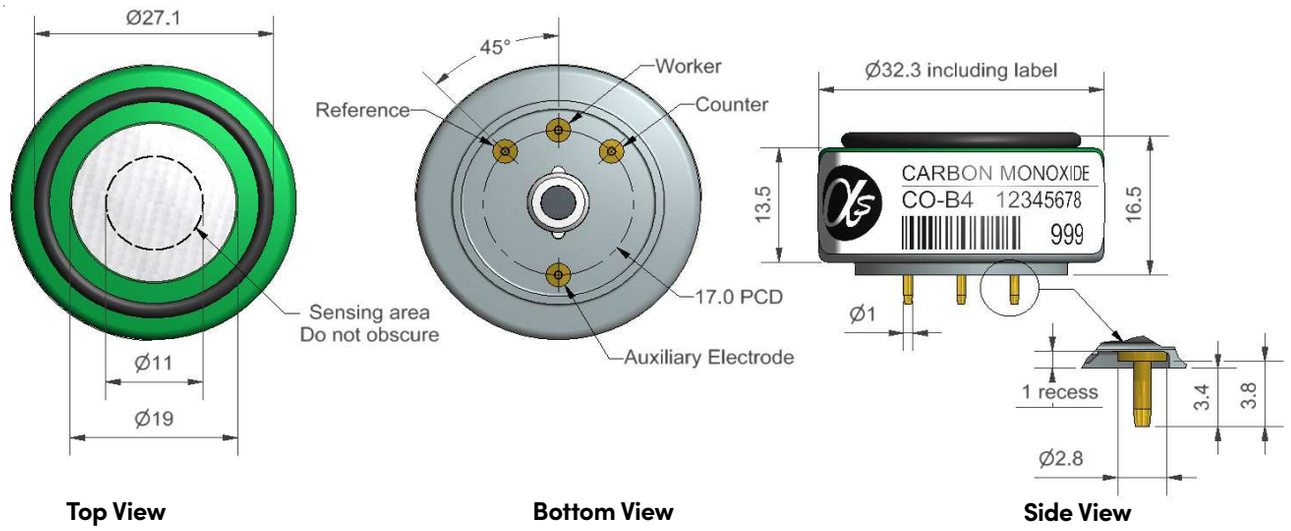
CO-B4 Carbon Monoxide Sensor – 4-Electrode



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

Dimensions are in millimetres (± 0.1 mm).

Performance	Sensitivity	nA/ppm in 2ppm CO		420 to 650
	Response time	t90 (s) from zero to 10ppm CO		< 30
	Zero current	nA in zero air at 20°C		+30 to -250
	Noise*	±2 standard deviations (ppb equivalent)		4
	Range	ppm limit of performance warranty		1000
	Linearity	ppm CO error at full scale, linear at zero, 500ppm CO		20 to 35
	Overgas limit	maximum ppm for stable response to gas pulse		2000
	***Tested with Alphasense ISB low noise circuit**			
Lifetime	Zero drift	ppb equivalent change/year in lab air		< ±100
	Sensitivity drift	% change/year in lab air, monthly test		< 10
	Operating life	months until 50% original signal (24-month warranted)		> 36
Environmental	Sensitivity @ -20°C	(% output @ -20°C/output @ 20°C) @ 5ppm CO		40 to 70
	Sensitivity @ 50°C	(% output @ 50°C/output @ 20°C) @ 5ppm CO		110 to 125
	Zero @ -20°C	nA		-30 to +30
	Zero @ 50°C	nA		-50 to -200
Cross Sensitivity	Filter capacity	ppm·hrs	H_2S	250,000
	H_2S sensitivity	% measured gas @ 5ppm	H_2S	< 1
	NO_2 sensitivity	% measured gas @ 5ppm	NO_2	< 1
	Cl_2 sensitivity	% measured gas @ 5ppm	Cl_2	< 1
	NO sensitivity	% measured gas @ 5ppm	NO	< -3
	SO_2 sensitivity	% measured gas @ 5ppm	SO_2	< 0.1
	H_2 sensitivity	% measured gas @ 100ppm	H_2 at 20°C	< 50
	C_2H_4 sensitivity	% measured gas @ 100ppm	C_2H_4	< 1
	NH_3 sensitivity	% measured gas @ 20ppm	NH_3	< 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 sealed pot)		6
	Load resistor	Ω (ISB circuit is recommended)		33 to 100
	Weight	g		< 13

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

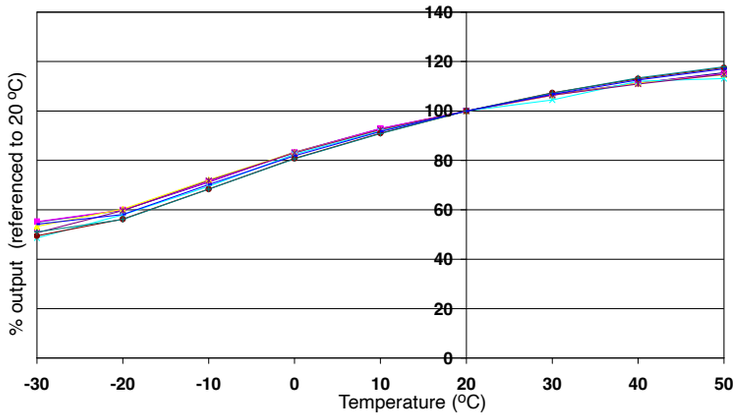


Figure 1 shows the temperature dependence of sensitivity at 2ppm CO.

This data is taken from a typical batch of sensors.

Figure 2 Zero Current Temperature Dependence (corrected)

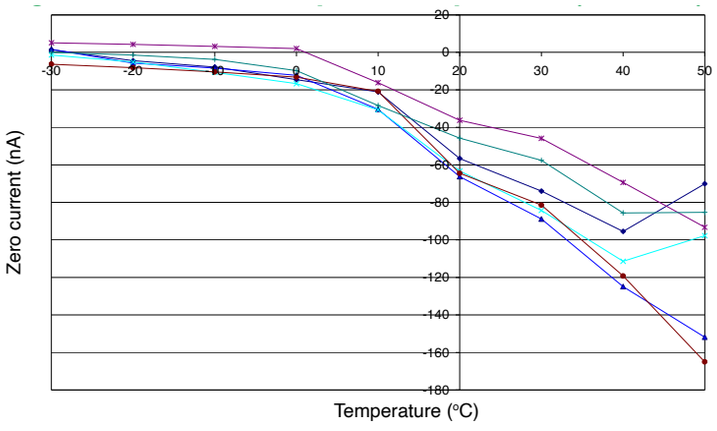


Figure 2 shows the variation in zero output of the working electrode caused by changes in temperature, expressed as nA.

This data is taken from a typical batch of sensors.

Contact Alphasense for futher information on zero current correction.

Figure 3 Response from 0 to 1ppm CO

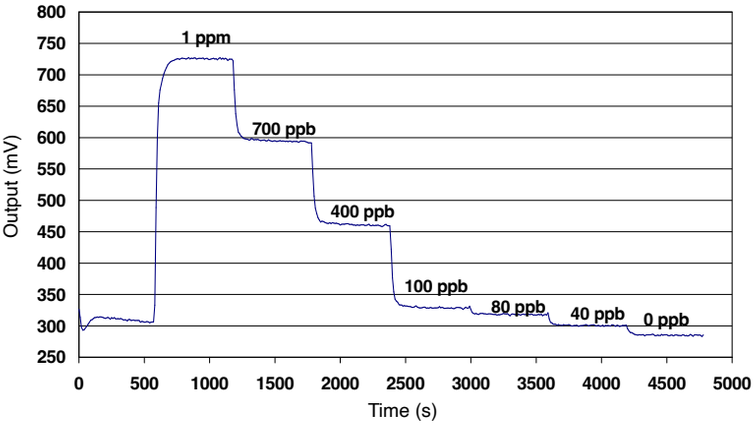


Figure 3 shows response from 0 to 1ppm CO.

Use of Alphasense ISB circuit reduces noise to 4ppb, with the opportunity of digital smoothing to reduce noise even further.