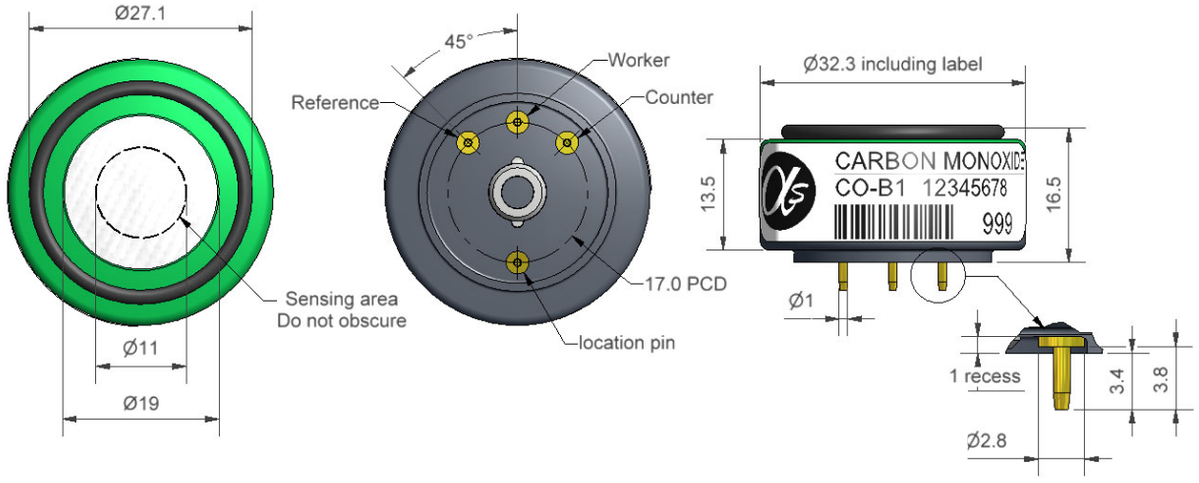
alphasense
AMETEK

Technical specifications Version 1.0

CO-B1 Carbon Monoxide Sensor



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

Dimensions are in millimetres (± 0.1 mm).

Performance	Sensitivity	nA/ppm in 400ppm CO		80 to 130
	Response time	t90 (s) from zero to 400ppm CO		< 25
	Zero current	ppm equivalent in zero air		< ± 4
	Resolution	RMS noise (ppm equivalent)		< 0.5
	Range	ppm limit of performance warranty		5,000
	Linearity	ppm CO error at full scale, linear at zero, 1000ppm CO		< ± 30
	Overgas limit	maximum ppm for stable response to gas pulse		10,000
Lifetime	Zero drift	ppm equivalent change/year in lab air		< 0.1
	Sensitivity drift	% change/year in lab air, monthly test		< 3
	Operating life	months until 80% original signal (24-month warranted)		> 24
Environmental	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 400ppm CO		70 to 88
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 400ppm CO		102 to 115
	Zero @ -20°C	ppm equivalent change from 20°C		< ± 1
	Zero @ 50°C	ppm equivalent change from 20°C		< ± 6
Cross Sensitivity	H_2S sensitivity	% measured gas @ 20ppm	H_2S	< 200
	NO_2 sensitivity	% measured gas @ 10ppm	NO_2	< 50
	Cl_2 sensitivity	% measured gas @ 10ppm	Cl_2	< -1
	NO sensitivity	% measured gas @ 50ppm	NO	< 80
	SO_2 sensitivity	% measured gas @ 20ppm	SO_2	< 50
	H_2 sensitivity	% measured gas @ 400ppm	H_2 at 20°C	< 65
	C_2H_4 sensitivity	% measured gas @ 400ppm	C_2H_4	< 65
	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 (recommended)		10 to 47
	Weight	g		< 13

T: +44 (0)1376 556700 **E:** sensors.alphasense@ametek.com **W:** www.alphasense.com

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

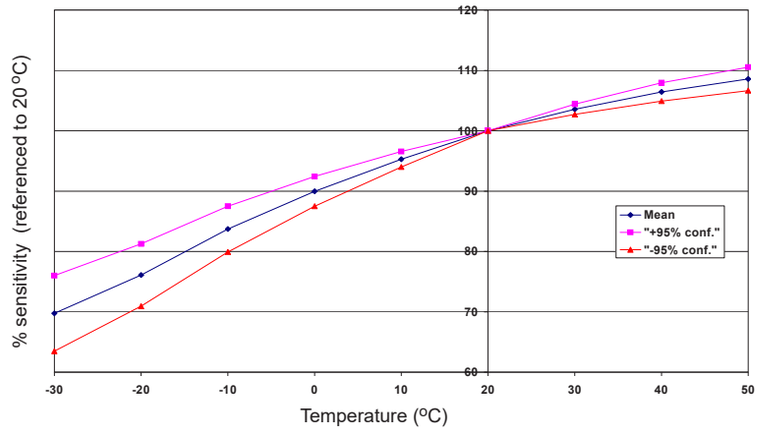


Figure 1 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

Figure 2 Zero Temperature Dependence

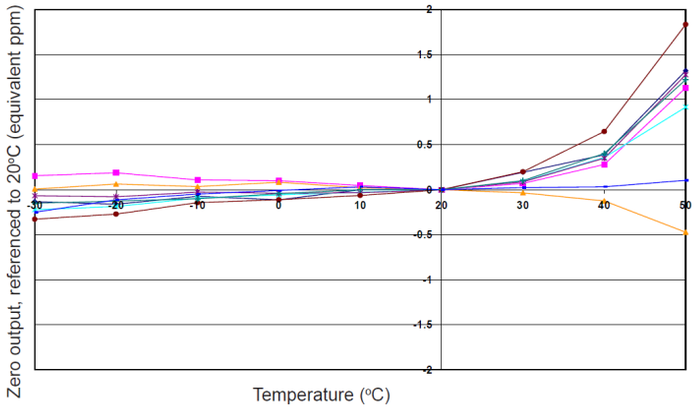
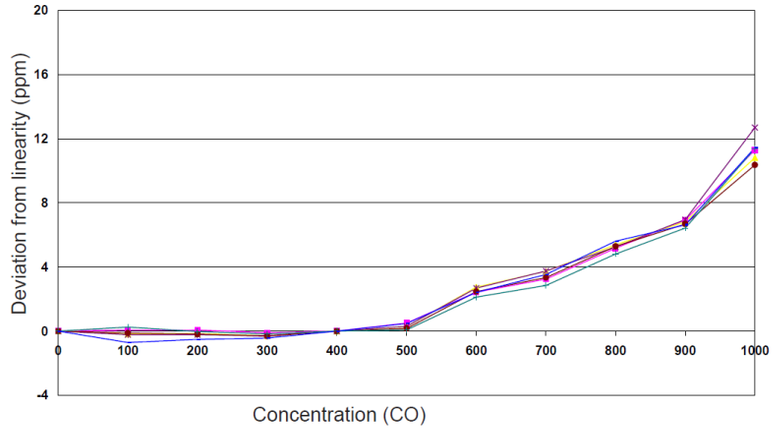


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

Figure 3 Linearity to 1,000ppm



When calibrated at 0 and 400ppm, the sensor shows good linearity with typically 1% non-linearity at 1,000ppm.