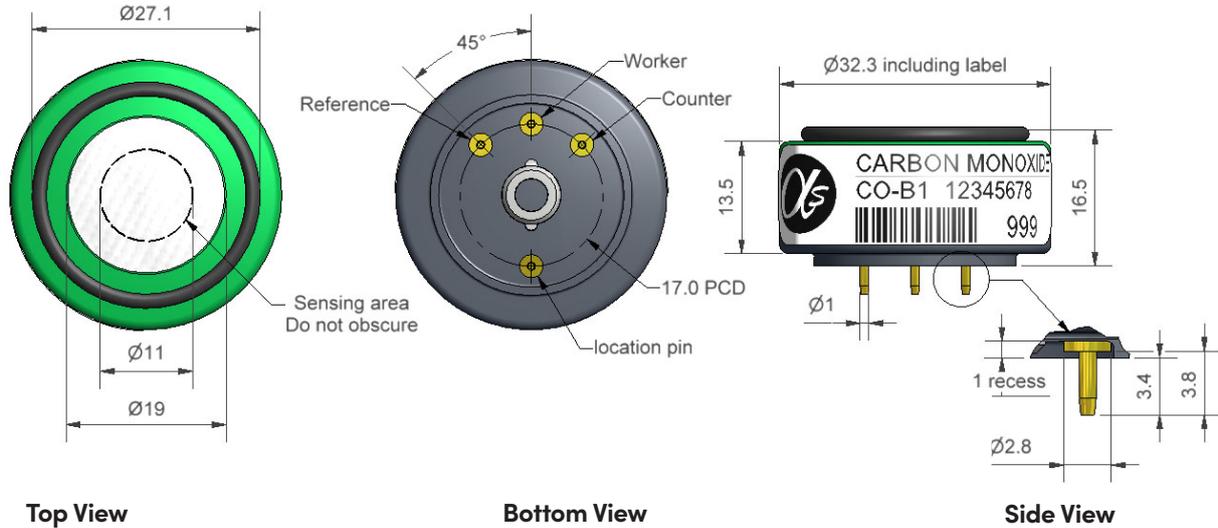




Technical specifications Version 1.0

CO-B1 Carbon Monoxide Sensor


 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 ₂ S sensitivity	% measured gas @ 20ppm	H ₂ S		< 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 ₂ H ₄ sensitivity	% measured gas @ 400ppm	C ₂ H 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



Figure 1 Sensitivity Temperature Dependence

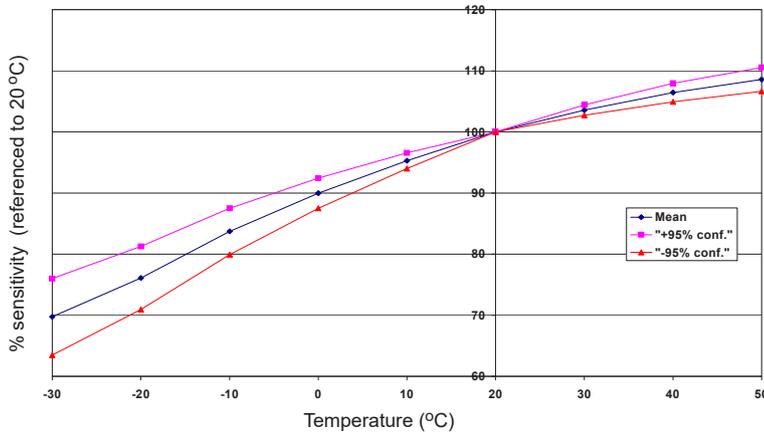


Figure 1 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

Figure 2 Zero Temperature Dependence

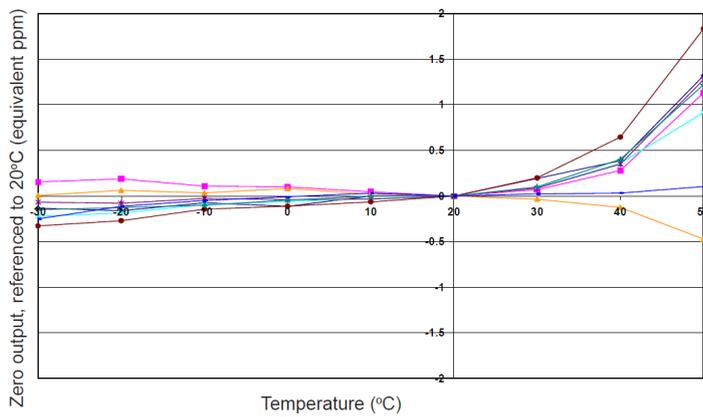
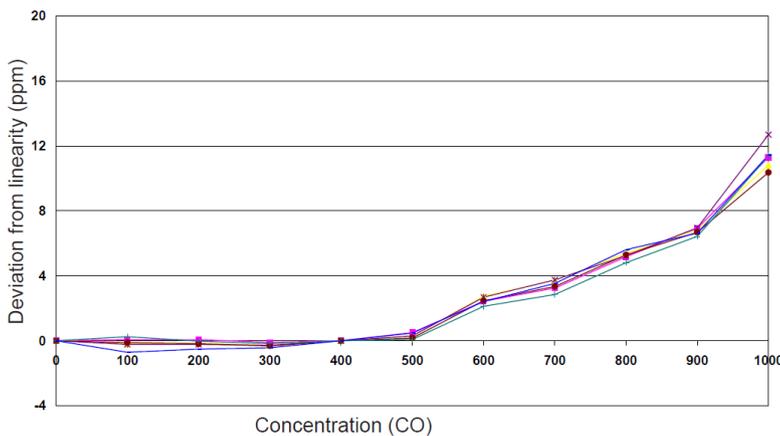


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

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.

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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