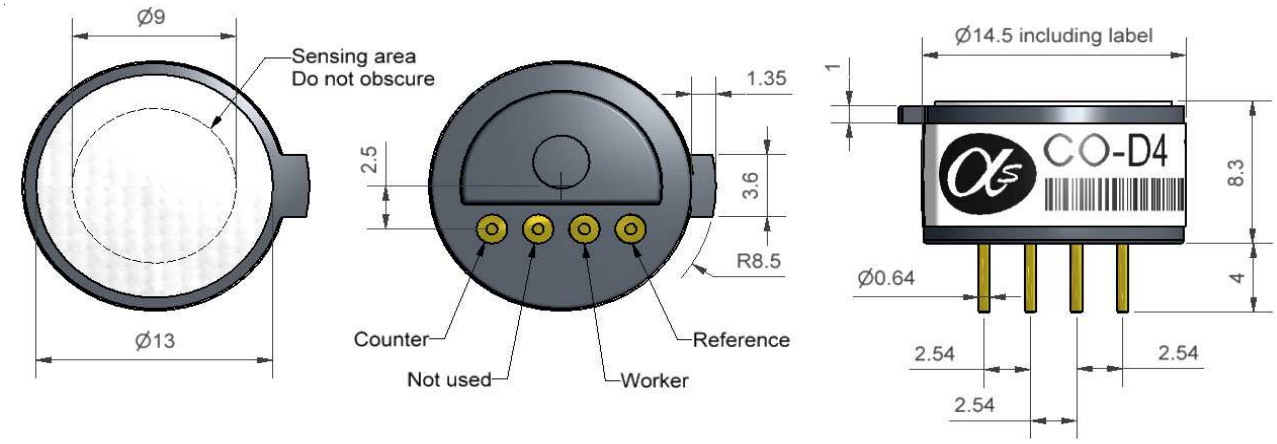
CO-D4 Carbon Monoxide Sensor – Miniature Size



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

Dimensions are in millimetres (± 0.1 mm). A three-pin version is available on request, coded CO-DF.

Performance	Sensitivity	nA/ppm in 400ppm CO	30 to 55
	Response time	t90 (s) from zero to 400ppm CO % 22°C	< 25
	Zero current	ppm equivalent in zero air	< ± 3
	Resolution	RMS noise (ppm equivalent)	< 1.5
	Range	ppm limit of performance warranty	1,000
	Linearity	ppm CO error at full scale, linear at zero and 400ppm CO	± 40
	Overgas limit	maximum ppm for stable response to gas pulse	2,000
Lifetime	Zero drift	ppm equivalent change/year in lab air	< 0.5
	Sensitivity drift	% change/year in lab air, monthly test	< 6
	Operating life	months until 80% original signal (24-month warranted)	> 18
Environmental	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 400ppm CO	45 to 70
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 400ppm CO	105 to 125
	Zero @ -20°C	ppm equivalent change from 20°C	< ± 2
	Zero @ 50°	ppm equivalent change from 20°C	< ± 4

Cross Sensitivity	Filter capacity	ppm·hrs	H_2S	20,000
	H_2S sensitivity	% measured gas @ 20ppm	H_2S	< 0.1
	NO_2 sensitivity	% measured gas @ 10ppm	NO_2	< 6
	Cl_2 sensitivity	% measured gas @ 10ppm	Cl_2	< 0.1
	NO sensitivity	% measured gas @ 50ppm	NO	< 60
	SO_2 sensitivity	% measured gas @ 20ppm	SO_2	< 0.1
	H_2 sensitivity	% measured gas @ 400ppm	H_2	< 40
	C_2H_4 sensitivity	% measured gas @ 400ppm	C_2H_4	< 110
	NH_3 sensitivity	% measured gas @ 20ppm	NH_3	< 0.1

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

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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

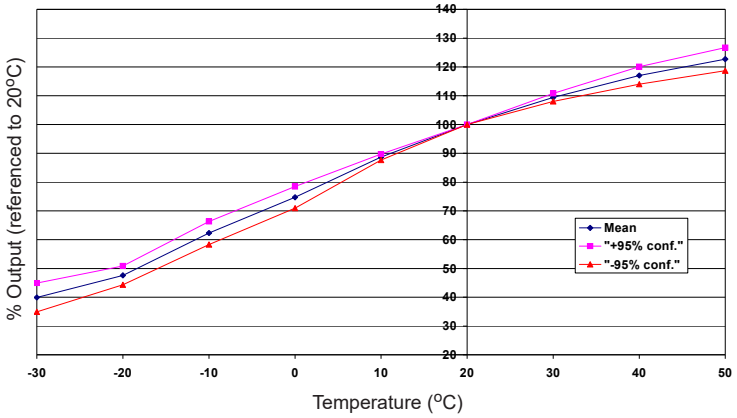

Figure 1 shows the variation in sensitivity caused by changes in temperature. Repeatable temperature dependence at elevated temperatures allows more accurate temperature compensation.

This data is taken from a typical batch of sensors. The mean and ± 95% confidence intervals are shown.

Figure 2 Zero Temperature Dependence

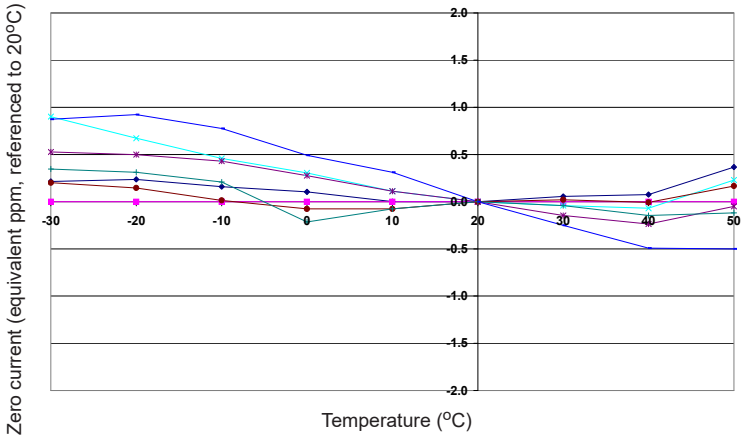

Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

Figure 3 Response to 4,000ppm CO

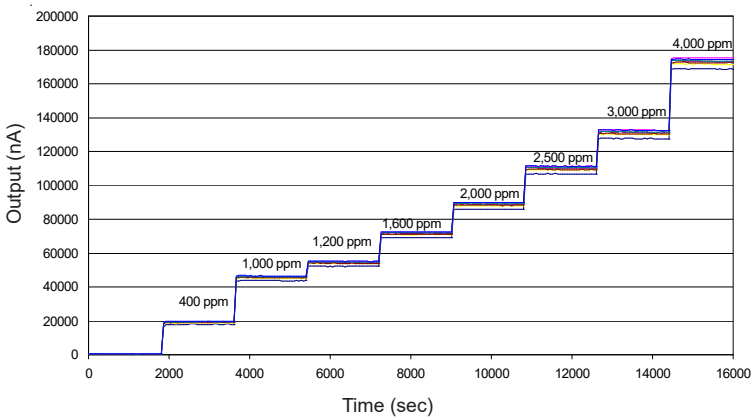

Figure 3 shows sensor output for increasing concentrations of CO, up to twice the specified overgas concentration. Data shown is eight sensors taken from a typical production batch.

This stepped overgas test shows the robustness of the sensor with fast response and straight plateaus at each step.

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.