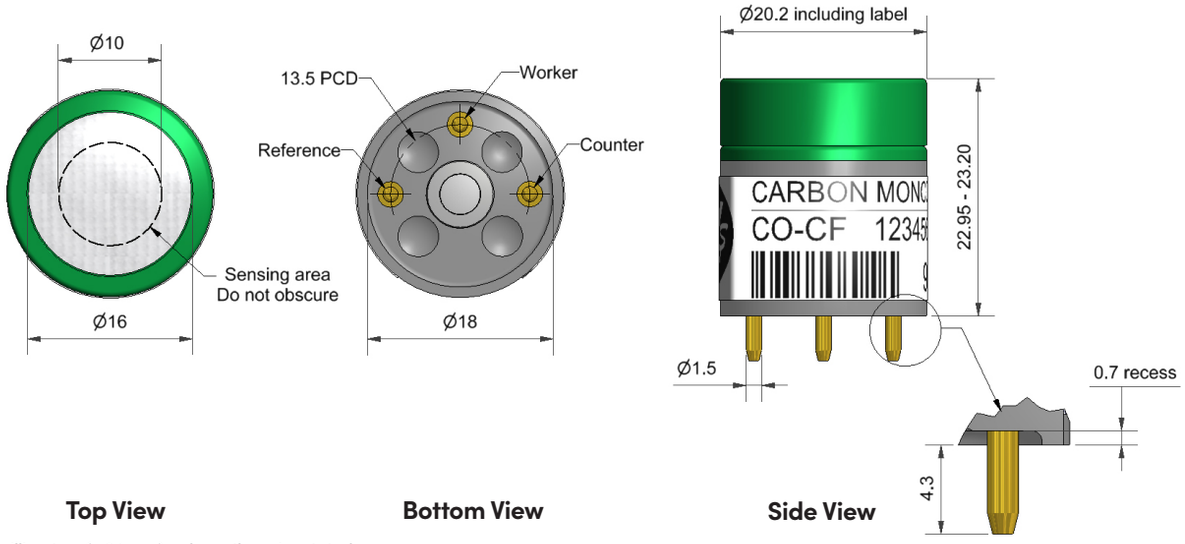
alphasense
AMETEK

Technical specifications Version 1.0

CO-CF Carbon Monoxide Sensor



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

Dimensions are in millimetres (± 0.1 mm) unless otherwise stated.

Performance	Sensitivity	nA/ppm in 400ppm CO		55 to 90
	Response time	t90 (s) from zero to 400ppm CO		< 30
	Zero current	ppm equivalent in zero air		< – 4 to + 2
	Resolution	RMS noise (ppm equivalent)		< 0.5
	Range	ppm CO 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		20,000
Lifetime	Zero drift	ppm equivalent change/year in lab air		< 0.2
	Sensitivity drift	% change/year in lab air, monthly test		< 8
	Operating life	months until 80% original signal (24-month warranted)		> 24
Environmental	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 400ppm CO		63 to 85
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 400ppm CO		102 to 115
	Zero @ -20°C	ppm equivalent change from 20°C		< ± 3
	Zero @ 50°C	ppm equivalent change from 20°C		< ± 8
Cross Sensitivity	Filter capacity	ppm·hrs	H_2S	250,000
	Filter capacity	ppm·hrs	NO_2	600,000
	Filter capacity	ppm·hrs	NO	400,000
	Filter capacity	ppm·hrs	SO_2	300,000
	H_2S sensitivity	% measured gas @ 20ppm	H_2S	< 0.1
	NO_2 sensitivity	% measured gas @ 10ppm	NO_2	< 0.1
	Cl_2 sensitivity	% measured gas @ 10ppm	Cl_2	< 0.1
	NO sensitivity	% measured gas @ 50ppm	NO	< 0.1
	SO_2 sensitivity	% measured gas @ 20ppm	SO_2	< 0.1
	H_2 sensitivity	% measured gas @ 400ppm	H_2 at 20°C	< 45
	C_2H_4 sensitivity	% measured gas @ 400ppm	C_2H_4	< 2
	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		< 8

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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

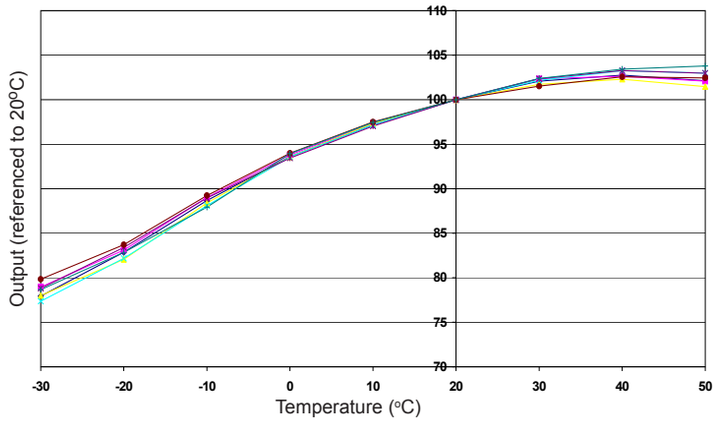

Figure 1 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

Figure 2 Zero Temperature Dependence

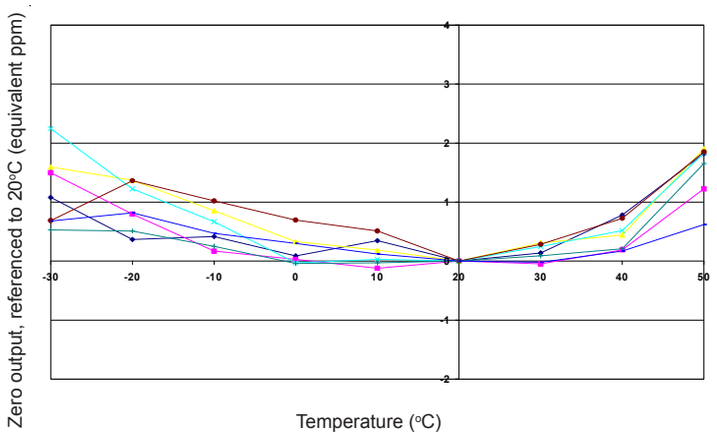

Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

Figure 3 Response to Exposure to 2% CO

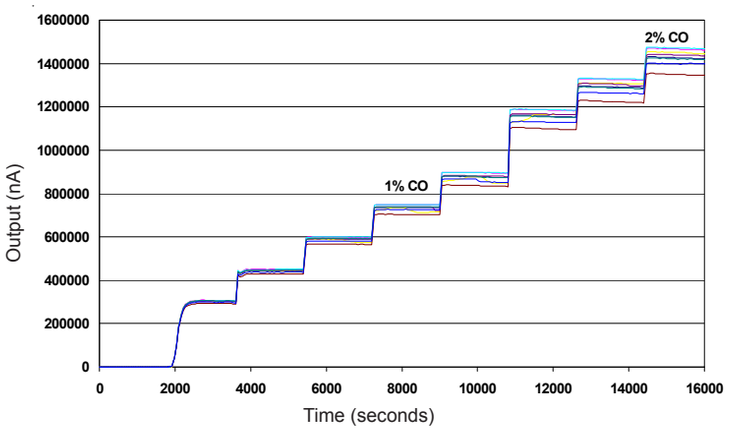

Figure 3 shows the excellent response to step changes in CO concentrations from zero to 2% CO by volume.

This data is taken from a typical batch of sensors.