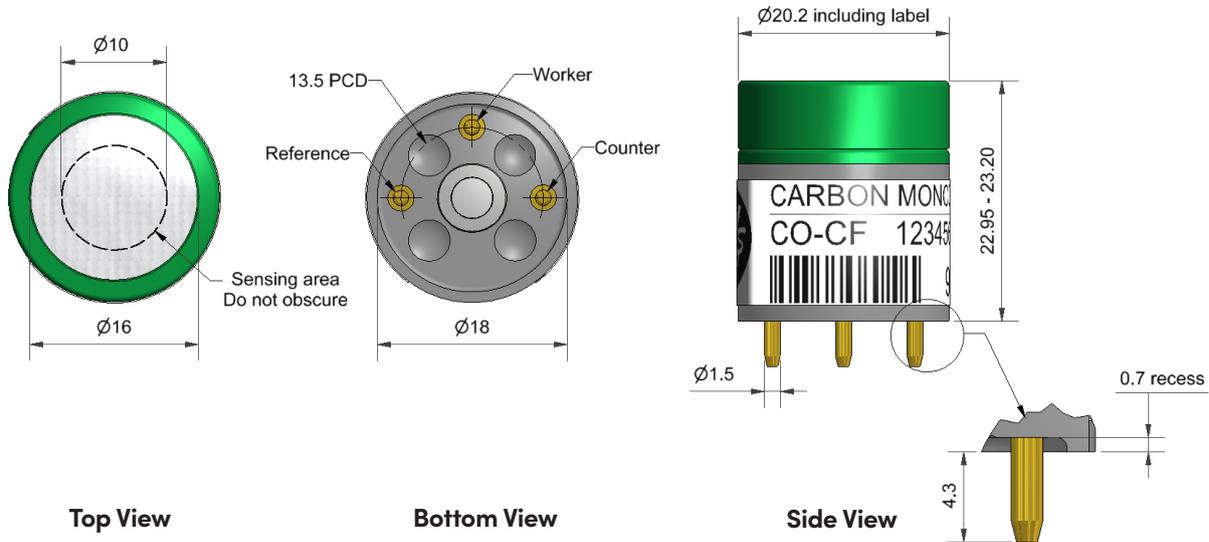




## CO-CF Carbon Monoxide Sensor


 Dimensions are in millimetres ( $\pm 0.1$  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		< $\pm 30$
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		< $\pm 3$
Zero @ 50°C	ppm equivalent change from 20°C		< $\pm 8$

Cross Sensitivity				
Filter capacity	ppm-hrs	H <sub>2</sub> S		250,000
Filter capacity	ppm-hrs	NO <sub>2</sub>		600,000
Filter capacity	ppm-hrs	NO		400,000
Filter capacity	ppm-hrs	SO <sub>2</sub>		300,000
H <sub>2</sub> S sensitivity	% measured gas @ 20ppm	H <sub>2</sub> S		< 0.1
NO <sub>2</sub> sensitivity	% measured gas @ 10ppm	NO <sub>2</sub>		< 0.1
Cl <sub>2</sub> sensitivity	% measured gas @ 10ppm	Cl <sub>2</sub>		< 0.1
NO sensitivity	% measured gas @ 50ppm	NO		< 0.1
SO <sub>2</sub> sensitivity	% measured gas @ 20ppm	SO <sub>2</sub>		< 0.1
H <sub>2</sub> sensitivity	% measured gas @ 400ppm	H <sub>2</sub> at 20°C		< 45
C <sub>2</sub> H <sub>4</sub> sensitivity	% measured gas @ 400ppm	C <sub>2</sub> H <sub>4</sub>		< 2
NH <sub>3</sub> sensitivity	% measured gas @ 20ppm	NH <sub>3</sub>		< 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	$\Omega$ (recommended)		10 to 47
Weight	g		< 8



**Figure 1 Sensitivity Temperature Dependence**

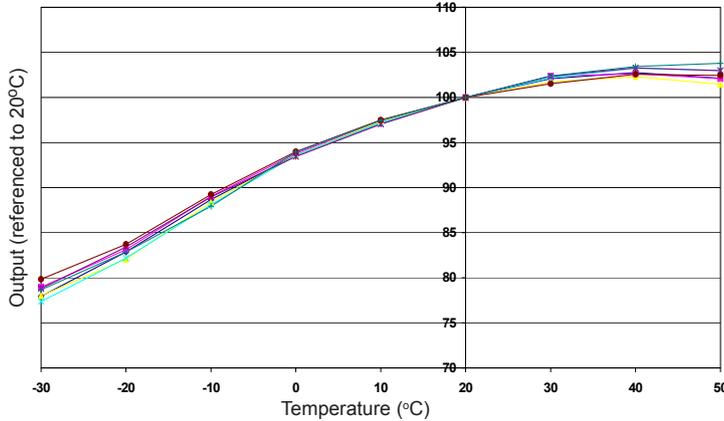


Figure 1 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

**Figure 2 Zero Temperature Dependence**

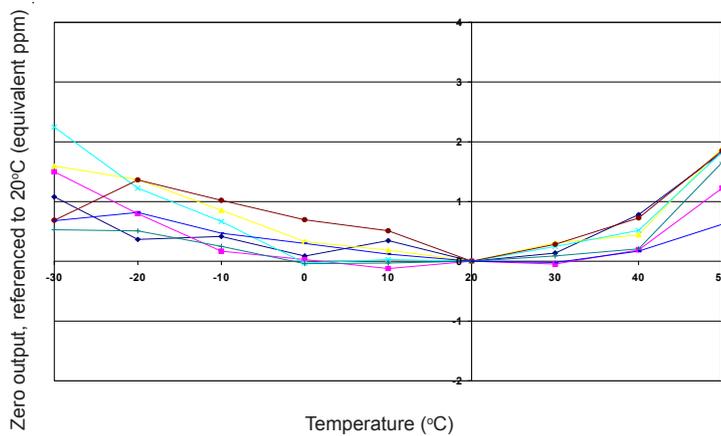


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

**Figure 3 Response to Exposure to 2% CO**

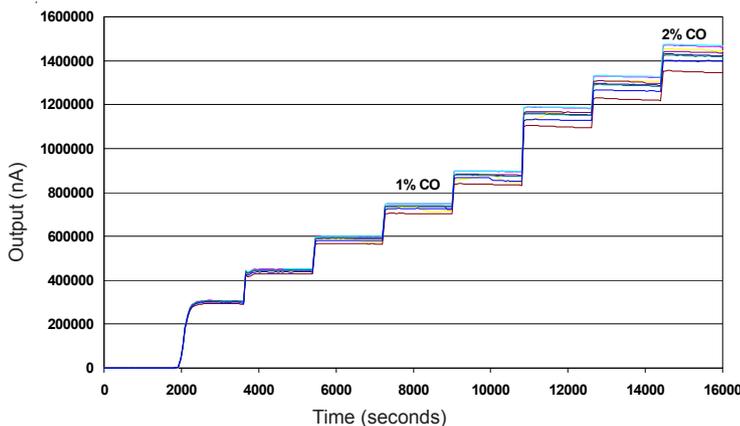


Figure 3 shows the excellent response to step changes in CO concentrations from zero to 2% CO by volume.

This data is taken from a typical batch of sensors.

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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