CO-CE Carbon Monoxide Sensor

High Concentration

Technical Specification

PATENTED

Figure 1 CO-CE Schematic Diagram

All dimensions in millimetres (± 0.1mm) unless otherwise stated

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

PERFORMANCE	Sensitivity	nA/ppm in 2,000ppm CO		10 to 25
	Response time	t_{90} (s) from zero to 2,000ppm CO		< 75
	Zero current	ppm equivalent in zero air		< ± 20
	Resolution	RMS noise (ppm equivalent)		< 5
	Range	ppm CO limit of performance warranty		10,000
	Linearity	ppm error at full scale, linear at zero and 2,000ppm CO		< 500
	Overgas limit	maximum ppm for stable response to gas pulse		100,000
LIFETIME	Zero drift	ppm equivalent change/year in lab air		< 1
	Sensitivity drift	% change/year in lab air, monthly test		< 4
	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 90
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 400ppm CO		102 to 112
	Zero @ -20°C	ppm equivalent change from 20°C		< ± 3
	Zero @ 50°C	ppm equivalent change from 20°C		< ±5
CROSS SENSITIVITY	Filter capacity	ppm·hours	H_2S	4,000,000
	Filter capacity	ppm-hours	NO_2	10,000,000
	Filter capacity	ppm-hours	NO	2,000,000
	Filter capacity	ppm-hours	SO_2	5,000,000
	H_2S sensitivity	% measured gas @ 20ppm	H_2S	< 0.1
	NO_2 sensitivity	% measured gas @ 10ppm	NO_2	< 0.1
	NO sensitivity	% measured gas @ 50ppm	NO	< 0.1
	SO_2 sensitivity	% measured gas @ 20ppm	SO_2	< 0.1
	Cl_2 sensitivity	% measured gas @ 10ppm	Cl_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

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, with 10 ohm load resistor, 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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Technical Specification

CO-CE Performance Data

Figure 2 Sensitivity Temperature Dependence

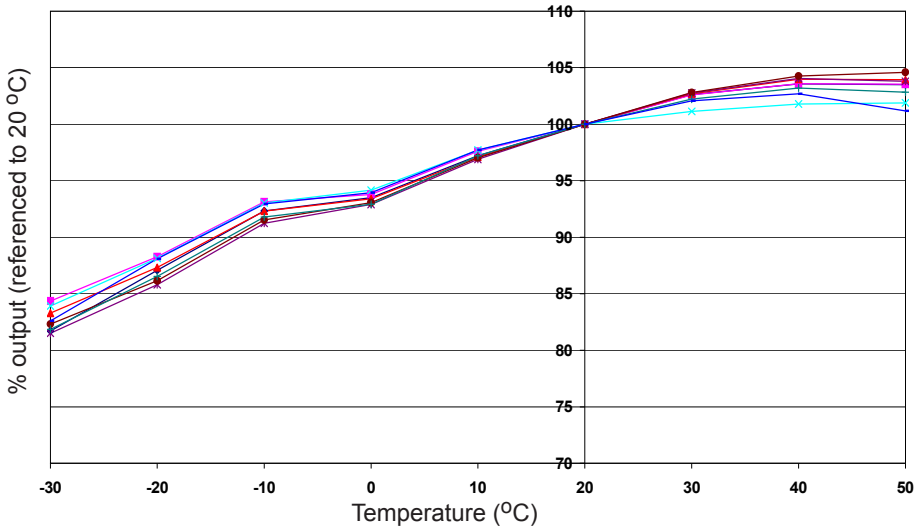

Figure 2 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

Figure 3 Zero Temperature Dependence

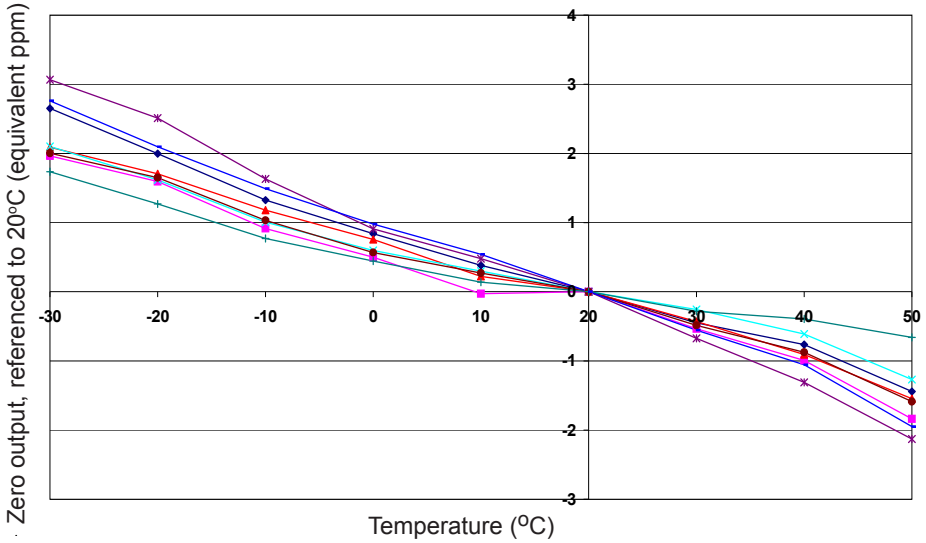

Figure 3 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors and shows repeatability.

Figure 4 Response to 10% Volume CO

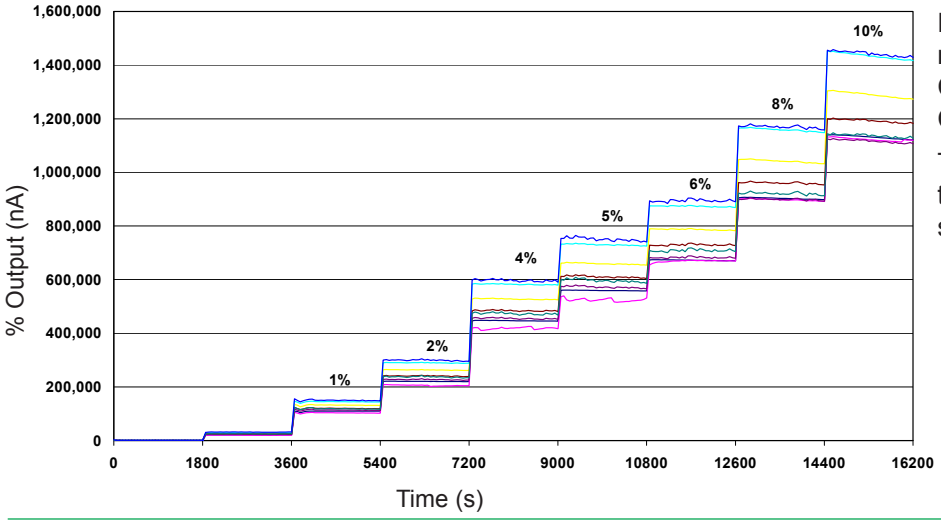

Figure 4 shows the non-linear response to step changes in CO concentrations from 10% CO to 0% CO.

This data is taken from a typical batch of sensors and shows repeatability.

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