



CO-CE Carbon Monoxide Sensor

High Concentration



Figure 1 CO-CE Schematic Diagram



PATENTED

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

Top View

Bottom View

Side View

PERFORMANCE	Parameter	Specification	Range
	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
	Overshoot limit	maximum ppm for stable response to gas pulse	100,000

LIFETIME	Parameter	Specification	Range
	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	Parameter	Specification	Range
	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	Gas	Capacity
	Filter capacity	ppm-hours	H ₂ S	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 ₂ S sensitivity	% measured gas @ 20ppm	H ₂ S	< 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 ₂ H ₄ sensitivity	% measured gas @ 400ppm	C ₂ H ₄	< 2
	NH ₃ sensitivity	% measured gas @ 20ppm	NH ₃	< 0.1

KEY SPECIFICATIONS	Parameter	Specification	Range
	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.

Technical Specification

ApolloSense Ltd



CO-CE Performance Data

Technical Specification

Figure 2 Sensitivity Temperature Dependence

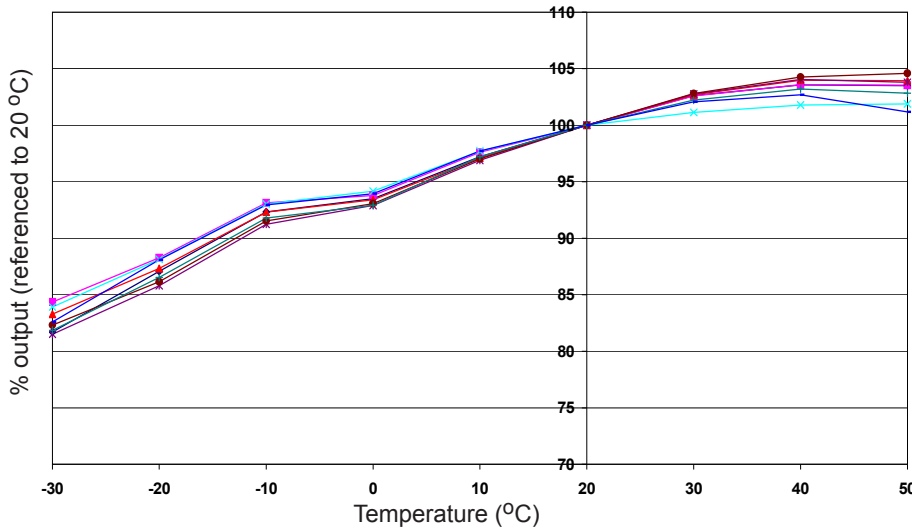


Figure 2 shows the variation in sensitivity caused by changes in temperature. This data is taken from a typical batch of sensors.

Figure 3 Zero Temperature Dependence

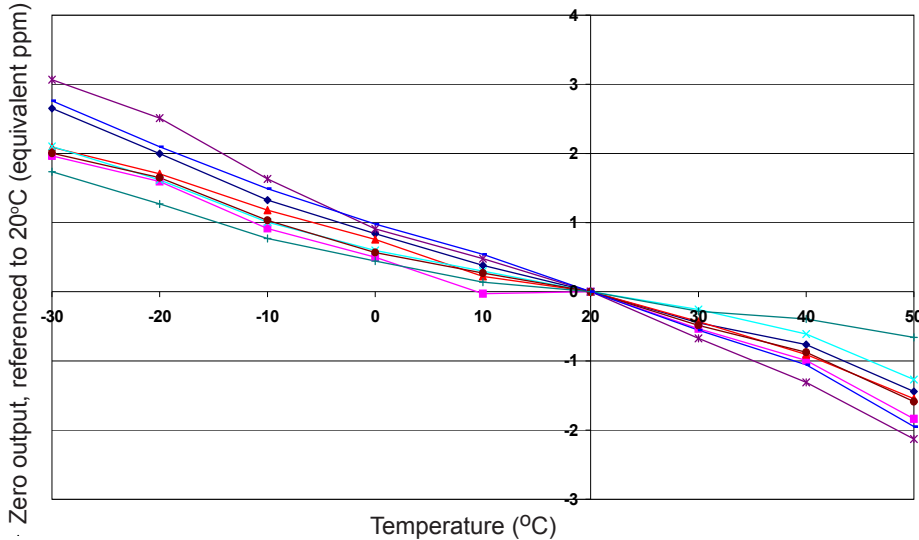


Figure 3 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C. This data is taken from a typical batch of sensors and shows repeatability.

Figure 4 Response to 10% Volume CO

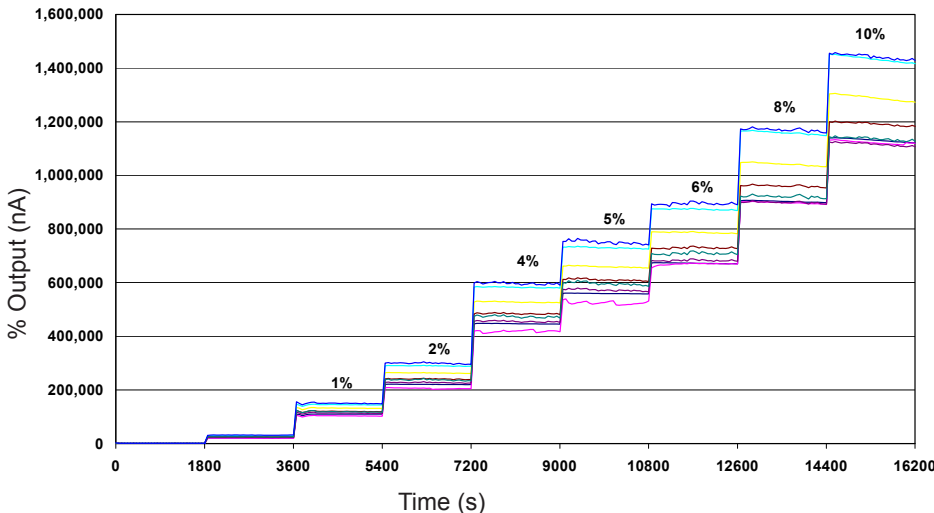


Figure 4 shows the non-linear response to step changes in CO concentrations from 10% CO to 0% CO. This data is taken from a typical batch of sensors and shows repeatability.

ApolloSense Ltd