

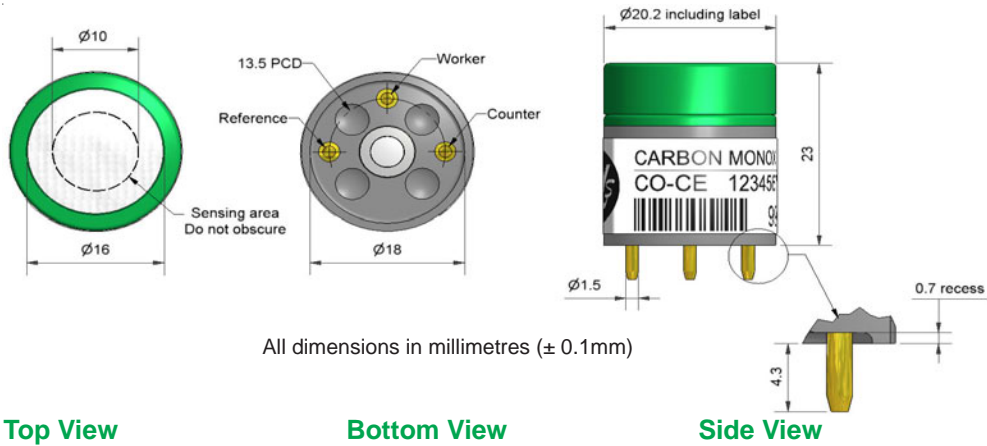
CO-CE Carbon Monoxide Sensor

High Concentration



Figure 1 CO-CE Schematic Diagram

PATENTED



All dimensions in millimetres ($\pm 0.1\text{mm}$)

Top View

Bottom View

Side View

PERFORMANCE			
Sensitivity	nA/ppm in 2,000ppm CO		12 to 20
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 85
Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 400ppm CO		103 to 112
Zero @ -20°C	ppm equivalent change from 20°C		± 2
Zero @ 50°C	ppm equivalent change from 20°C		-2 to +5

CROSS SENSITIVITY				
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		<60
C ₂ H ₄ sensitivity	% measured gas @ 400ppm	C ₂ H ₄		<25
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



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.

Technical Specification

CO-CE Performance Data

Technical Specification

Figure 2 Sensitivity Temperature Dependence

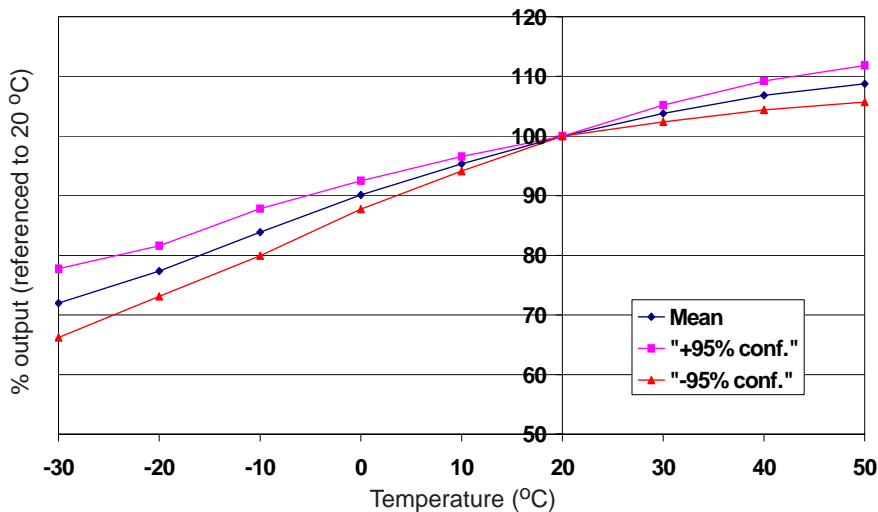
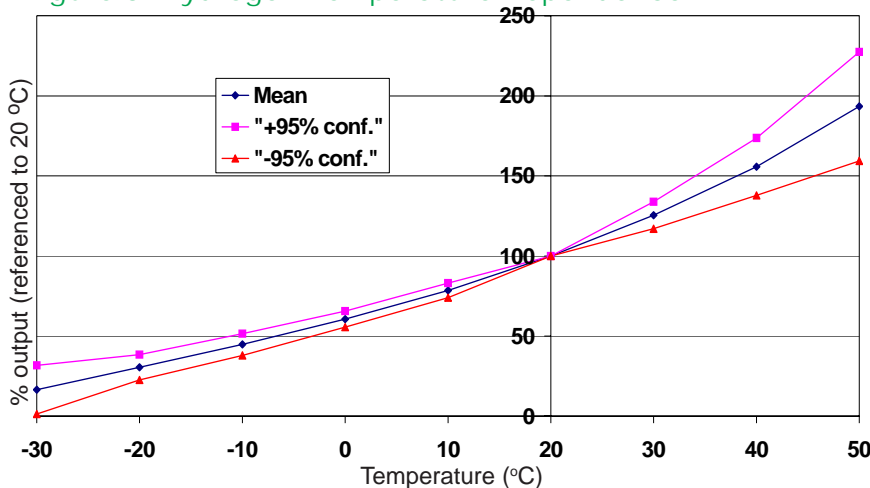


Figure 2 shows the variation in sensitivity caused by changes in temperature.

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

Figure 3 Hydrogen Temperature Dependence



Hydrogen is a cross-interferent whose effect changes rapidly at higher temperatures but can be ignored at low temperatures.

The mean and $\pm 95\%$ confidence intervals are shown.

Figure 4 Linear Response to Exposure to 10% Volume CO

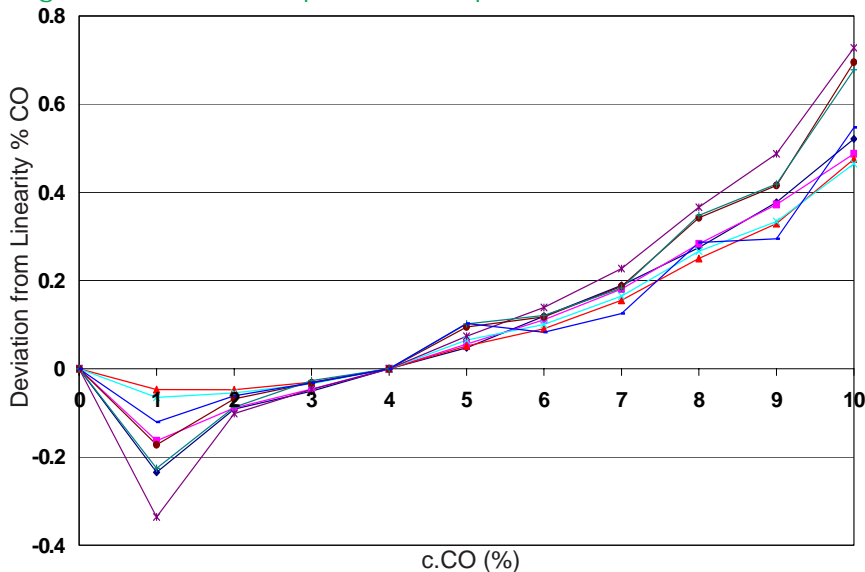


Figure 4 shows the non-linear response to step changes in CO concentrations from 10% CO to 0% CO.

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