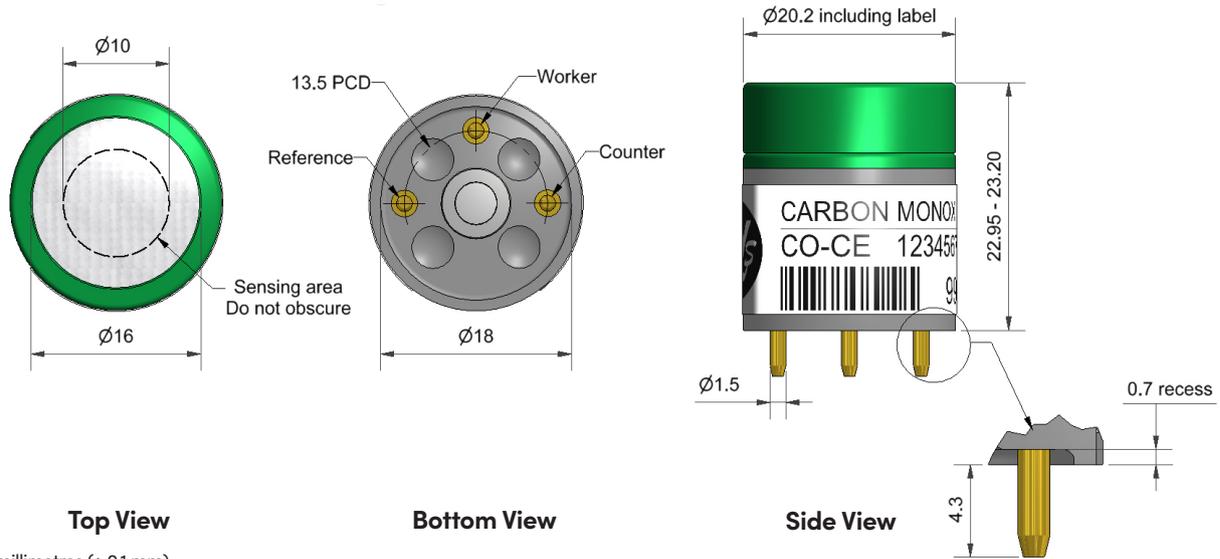




Technical specifications Version 1.0

CO-CE Carbon Monoxide Sensor – High Concentration


 Dimensions are in millimetres (± 0.1 mm).

Performance

Sensitivity	nA/ppm in 2,000ppm CO	10 to 25
Response time	t90 (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-hrs	H ₂ S	4,000,000
Filter capacity	ppm-hrs	NO ₂	10,000,000
Filter capacity	ppm-hrs	NO	2,000,000
Filter capacity	ppm-hrs	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

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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Figure 1 Sensitivity Temperature Dependence

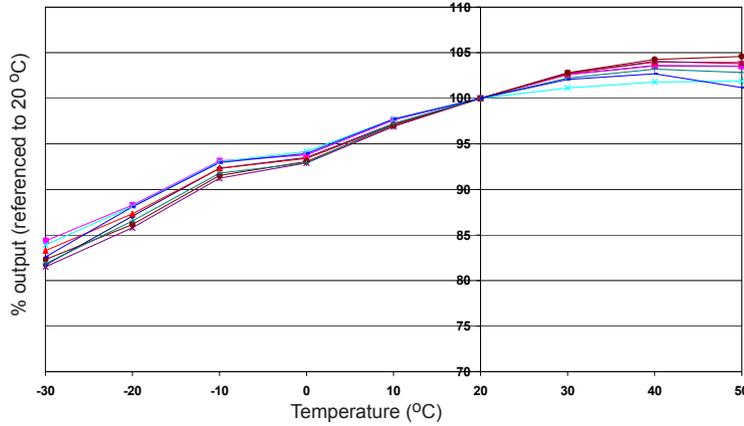


Figure 1 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

Figure 2 Zero Temperature Dependence

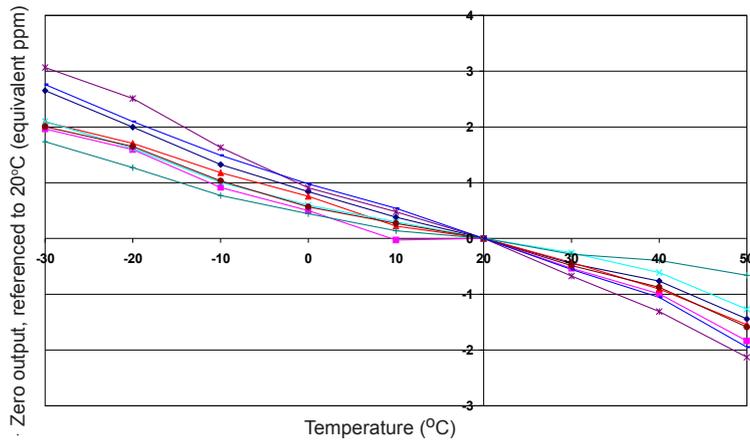


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

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

Figure 3 Response to 10% Volume CO

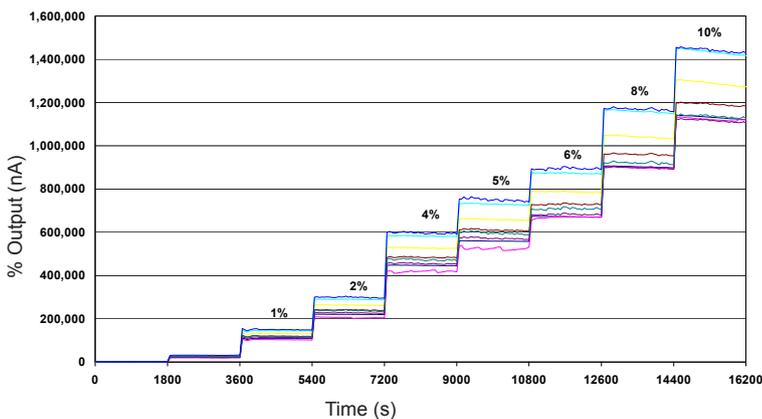


Figure 3 shows the non-linear response to step changes in CO concentrations from 10% CO to 0% CO.

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

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