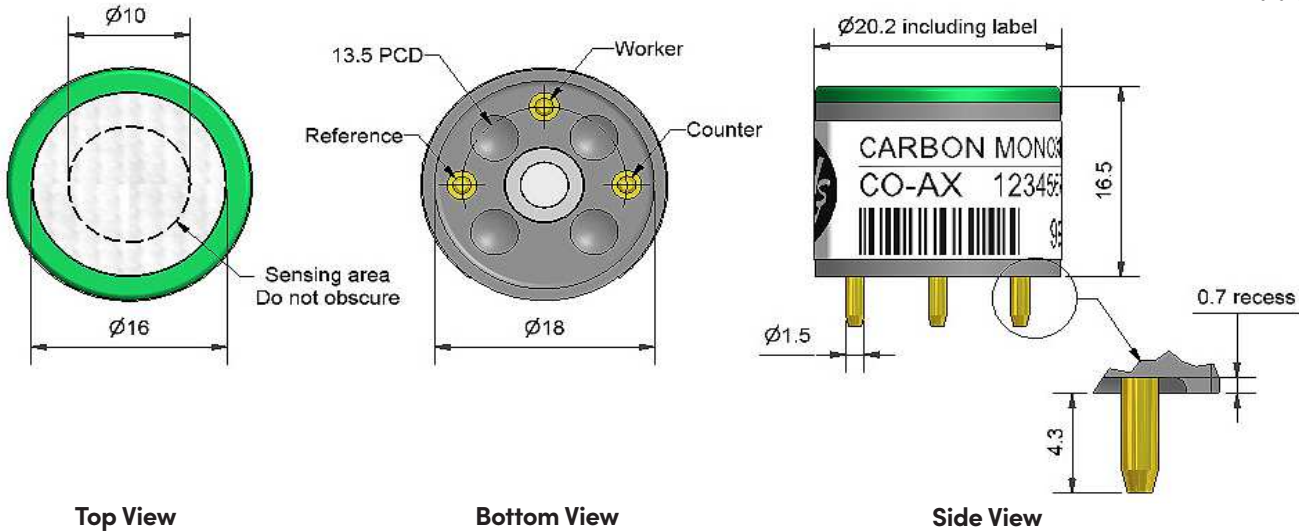


CO-AX Carbon Monoxide Sensor – EN 50379 Compliant for Stack Gases



Dimensions are in millimetres (± 0.1 mm).

Performance	Sensitivity	nA/ppm in 400ppm CO		55 to 100
	Response time	t90 (s) from zero to 400ppm CO		< 30
	Zero current	ppm equivalent in zero air		< ± 3
	Resolution	RMS noise (ppm equivalent)		< 0.5
	Range	ppm CO limit of performance warranty		2,000
	Linearity	ppm error at full scale, linear at zero and 800ppm CO		< ± 40
	Overgas limit	maximum ppm for stable response to gas pulse		4,000
Lifetime	Zero drift	ppm equivalent change/year in lab air		< 0.2
	Sensitivity drift	% change/year in lab air, monthly test		< 6
	Operating life	months until 80% original signal (24-month warranted)		> 24
Environmental	Sensitivity @ -20°C	(% output @ -20°C/output @ 20°C) @ 400ppm CO		55 to 75
	Sensitivity @ 0°C	(% output @ 0°C/output @ 20°C) @ 400ppm CO		75 to 90
	Sensitivity @ 40°C	(% output @ 40°C/output @ 20°C) @ 400ppm CO		106 to 120
	Zero @ -20°C	ppm equivalent change from 20°C		< 0 to 4
	Zero @ 0°C	ppm equivalent change from 20°C		< 0 to 3
	Zero @ 50°C	ppm equivalent change from 20°C		< 0 to -6
Cross Sensitivity	Filter capacity	ppm·hrs	H ₂ S	250,000
	Filter capacity	ppm·hrs	NO ₂	500,000
	Filter capacity	ppm·hrs	NO	20,000
	Filter capacity	ppm·hrs	SO ₂	250,000
	H ₂ sensitivity	% measured gas @ 900ppm	H ₂ in 900ppm CO @ 10°C	< 2
	H ₂ sensitivity	% measured gas @ 900ppm	H ₂ in 900ppm CO @ 20°C	< 4
	H ₂ sensitivity	% measured gas @ 900ppm	H ₂ in 900ppm CO @ 30°C	< 6
	NO ₂ sensitivity	% measured gas @ 10ppm	NO ₂	< -1
	Cl ₂ sensitivity	% measured gas @ 10ppm	Cl ₂	< 0.1
	NO sensitivity	% measured gas @ 500ppm	NO	< -2
	SO ₂ sensitivity	% measured gas @ 20ppm	SO ₂	< 0.1
	C ₂ H ₄ sensitivity	% measured gas @ 400ppm	C ₂ H ₄	< 5
	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 @ 0 to 20°C (stored in sealed pot)	6	
	Load resistor	Ω (recommended)	10 to 47	
	Weight	g	< 6	



Figure 1 CO Sensitivity Temperature Dependence

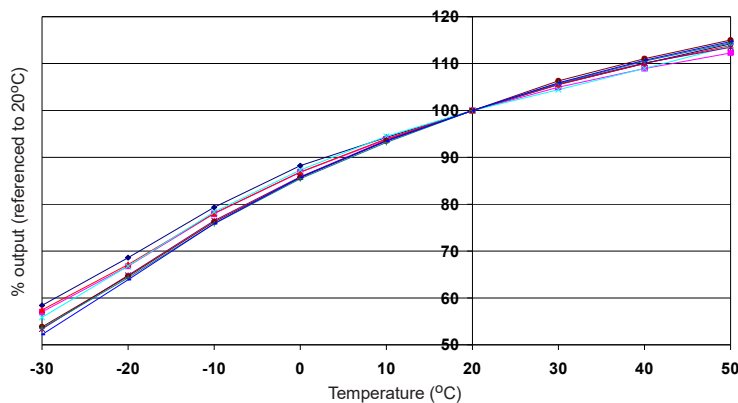


Figure 1 shows the variation in sensitivity caused by changes in temperature.
This data is taken from a typical batch of sensors.

Figure 2 Hydrogen Sensitivity Temperature Dependence

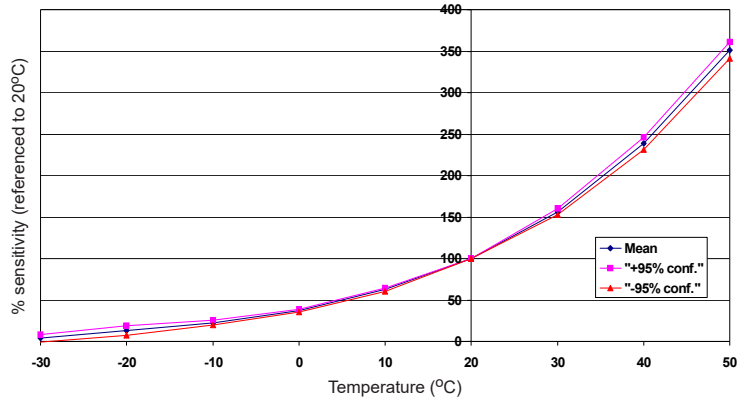


Figure 2 shows the strong temperature dependence of the CO-AX to hydrogen. Since hydrogen sensitivity is less than 4% at 20°C, hydrogen interference can practically be ignored at low temperatures. However, at 50°C hydrogen interference is 14%.
This data is taken from a typical batch of sensors.
The mean and ±95% confidence intervals are shown.

Figure 3 Hydrogen Cross Sensitivity at 30°C

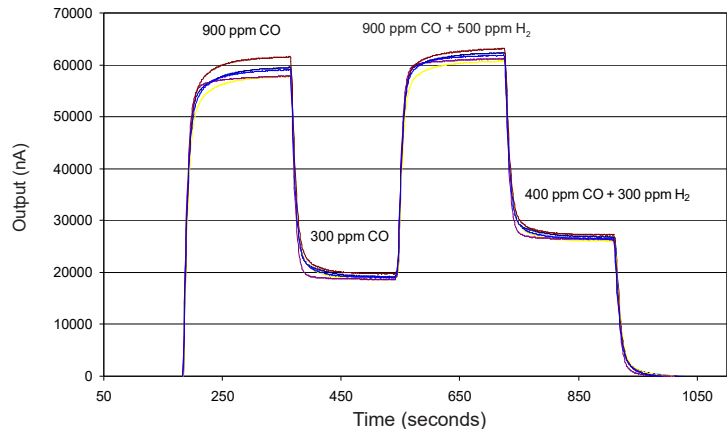


Figure 3 shows hydrogen sensitivity for a typical batch of eight CO-AX sensors at 30°C following EN50379. All sensors show less than 5% cross sensitivity when 500ppm hydrogen is added to 950ppm carbon monoxide. t90 is less than 45 seconds.