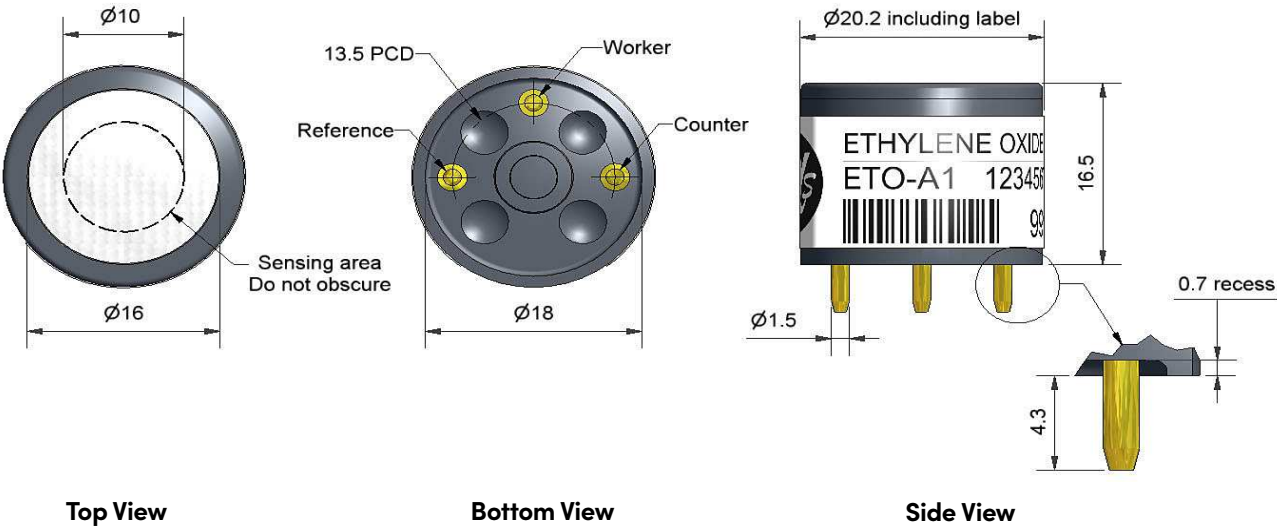


ETO-A1 Ethylene Oxide Sensor



Dimensions are in millimetres (± 0.1 mm).

Performance	Sensitivity		nA/ppm in 20ppm EtO		2,000 to 3,200
	Response time		t90 (s) from zero to 20ppm EtO		< 150
	Zero current		ppm equivalent in zero air		± 0.6
	Resolution		RMS noise (ppm equivalent)		< 0.1
	Range		ppm EtO limit of performance warranty		100
	Linearity		ppm error at full scale, linear at zero, 40ppm EtO		5 to 10
	Overgas limit		maximum ppm for stable response to gas pulse		200
Lifetime	Zero drift		ppm equivalent change/year in lab air		nd
	Sensitivity drift		% change/month in lab air, twice monthly test		nd
	Operating life		months until 80% original signal (12-month warranted)		> 24
Environmental	Sensitivity @ -20°C		(% output @ -20°C/output @ 20°C) @ 50ppm CO		20 to 50
	Sensitivity @ 50°C		(% output @ 50°C/output @ 20°C) @ 50ppm CO		120 to 160
	Zero @ -20°C		ppm equivalent change from 20°C		< ± 0.5
	Zero @ 50°C		ppm equivalent change from 20°C		< 2 to 4
Cross Sensitivity	H ₂ S	sensitivity	% measured gas @ 20ppm	H ₂ S	< 200
	NO ₂	sensitivity	% measured gas @ 10ppm	NO ₂	< 50
	Cl ₂	sensitivity	% measured gas @ 10ppm	Cl ₂	< -1
	NO	sensitivity	% measured gas @ 50ppm	NO	< 80
	SO ₂	sensitivity	% measured gas @ 20ppm	SO ₂	< 50
	CO	sensitivity	% measured gas @ 400ppm	CO	< 30
	H ₂	sensitivity	% measured gas @ 400ppm	H ₂	< 0.5
	C ₂ H ₄	sensitivity	% measured gas @ 80ppm	C ₂ H ₄	< 100
	NH ₃	sensitivity	% measured gas @ 25ppm	NH ₃	< 0.1
	HCHO	sensitivity	% measured gas @ 4ppm	HCHO	90
	CO ₂	sensitivity	% measured gas @ 5%	CO ₂	< 0.1
	Key Specifications	Temperature range		°C	
Pressure range		kPa		80 to 120	
Humidity range		% rh continuous		15 to 90	
Storage period		months @ 3 to 20°C (stored in original container)		6	
Load resistor		Ω (recommended)		10 to 47	
Bias voltage		mV (working electrode potential above reference electrode potential)		300	
Weight		g		< 6	

Figure 1 Sensitivity Temperature Dependence

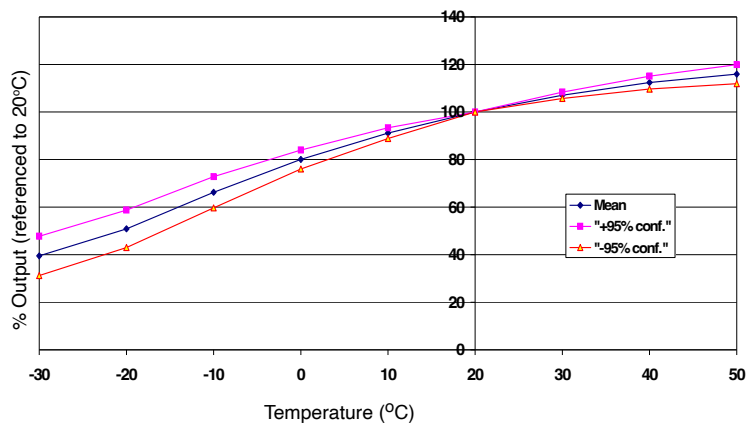


Figure 1 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

The mean and ± 95% confidence intervals are shown.

Figure 2 Zero Temperature Dependence

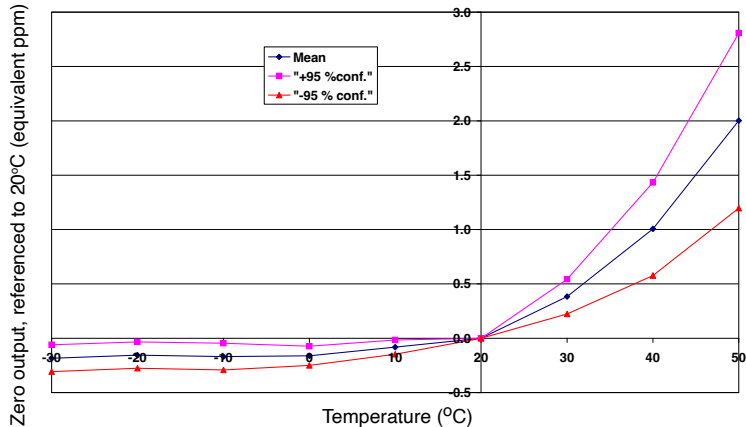
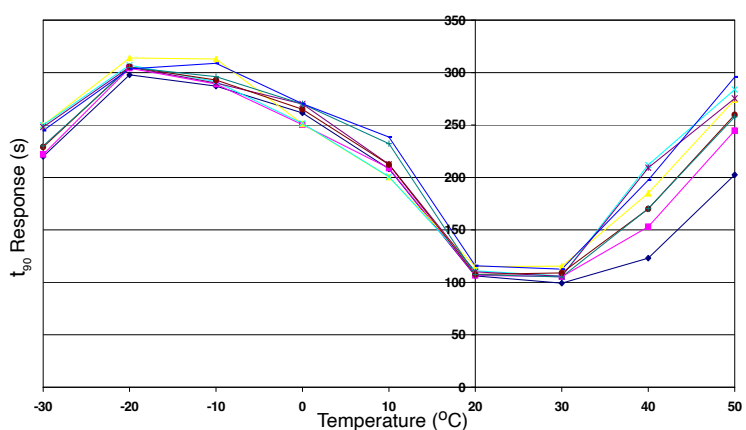


Figure 2 shows the variation in zero output caused by changes in temperature expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

Figure 3 Response Time Temperature Dependence



The response time depends on both gas properties and sensor electrochemistry.

Diffusion of VOCs can be very slow at low temperatures.

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 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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