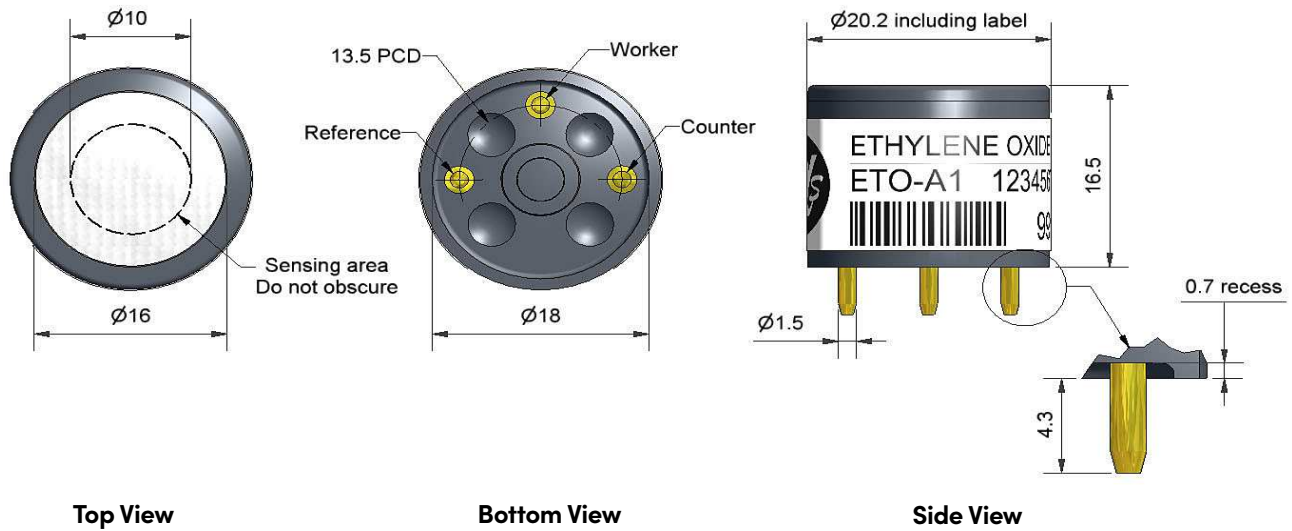


ETO-A1 Ethylene Oxide Sensor



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
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	< 200
	NO ₂ sensitivity	% measured gas @ 10ppm	< 50
	Cl ₂ sensitivity	% measured gas @ 10ppm	< -1
	NO sensitivity	% measured gas @ 50ppm	< 80
	SO ₂ sensitivity	% measured gas @ 20ppm	< 50
	CO sensitivity	% measured gas @ 400ppm	< 30
	H ₂ sensitivity	% measured gas @ 400ppm	< 0.5
	C ₂ H ₄ sensitivity	% measured gas @ 80ppm	< 100
	NH ₃ sensitivity	% measured gas @ 25ppm	< 0.1
	HCHO sensitivity	% measured gas @ 4ppm	90
CO ₂ sensitivity	% measured gas @ 5%	< 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 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

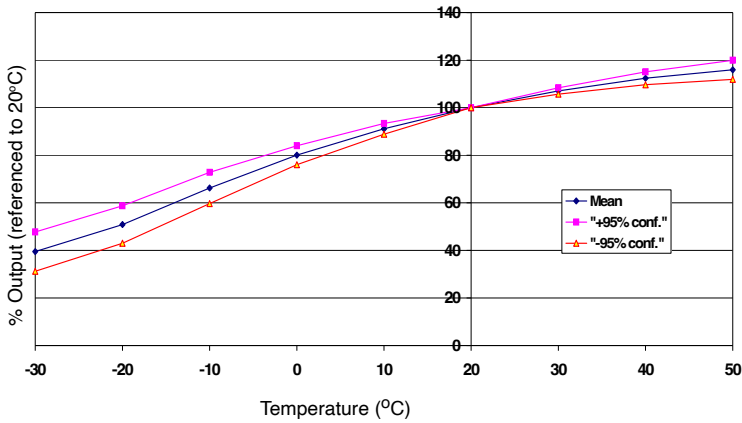


Figure 1 shows the variation in sensitivity caused by changes in temperature.

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

Figure 2 Zero Temperature Dependence

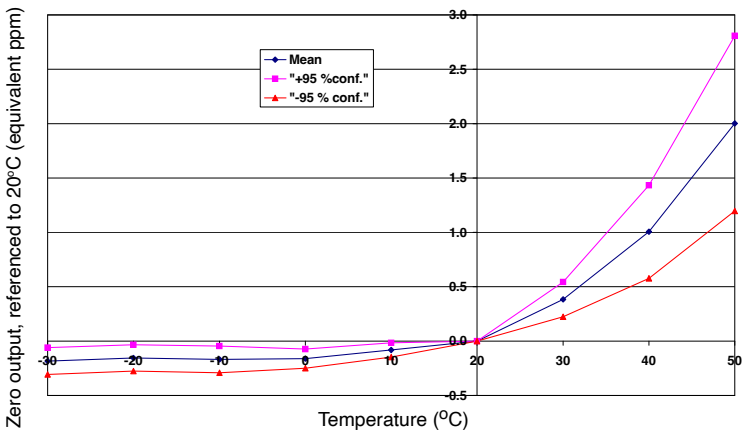
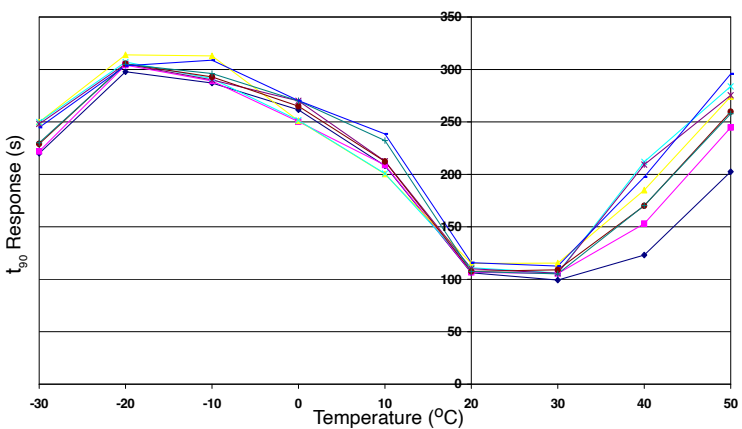


Figure 2 shows the variation in zero output caused by changes in temperature expressed as ppm gas equivalent, referenced to zero at 20°C.

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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