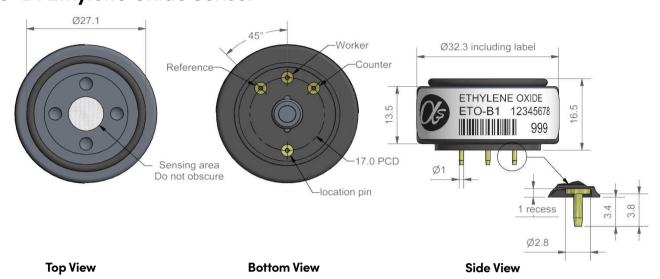
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Technical specifications Version 1.0

ETO-B1 Ethylene Oxide Sensor



Dimensions are in millimetres (± 0.1 mm).

Performance	Sensitivity Response time Zero current Resolution Range Linearity Overgas limit	nA/ppm in 20ppm EtO t90 (s) from zero to 20ppm EtO ppm equivalent in zero air RMS noise (ppm equivalent) ppm EtO limit of performance warranty ppm error at full scale, linear at zero, 40ppm EtO maximum ppm for stable response to gas pulse	2,000 to 3,400 < 200 < -0.6 to +1 < 0.1 100 5 to 10 500
Lifetime	Zero drift Sensitivity drift Operating life	ppm equivalent change/year in lab air % change/year in lab air, twice monthly test months until 80% original signal (24-month warranted)	nd nd
Environmental	Sensitivity @ -20°C Sensitivity @ 50°C Zero @ -20°C Zero @ 50°C	(% output @ -20°C/output @ 20°C) @ 50ppm CO (% output @ 50°C/output @ 20°C) @ 50ppm CO ppm equivalent change from 20°C ppm equivalent change from 20°C	20 to 50 120 to 160 < ± 0.5 < +2 to +5
Cross Sensitivity	H_2S sensitivity NO_2 sensitivity CI_2 sensitivity SO_2 sensitivity SO_2 sensitivity SO_3 sensitivity SO_4 sensitivity	% measured gas @ 20ppm H ₂ S % measured gas @ 10ppm NO ₂ % measured gas @ 10ppm CI ₂ % measured gas @ 50ppm NO % measured gas @ 20ppm SO ₂ % measured gas @ 40ppm CO % measured gas @ 40ppm H ₂ % measured gas @ 80ppm C ₂ H ₄ % measured gas @ 25ppm NH ₃ % measured gas @ 4ppm HCHO % measured gas @ 5% volume CO ₂	< 200 < 35 < -3 < 80 < 40 < 25 < 0.5 < 100 < 0.1 90 < 0.1
Key Specifications	Temperature range Pressure range Humidity range Storage period Load resistor Bias voltage Weight	°C kPa % rh continuous months @ 3 to 20°C (stored in original container) Ω (recommended) mV (working electrode potential above reference electrode potential) g	-30 to 50 80 to 120 15 to 90 6 10 to 33 300 < 13

Figure 1 Sensitivity Temperature Dependence

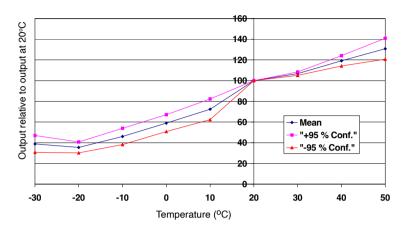


Figure 1 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

The mean and ±95% confidence intervals are shown.

Figure 2 Zero Temperature Dependence

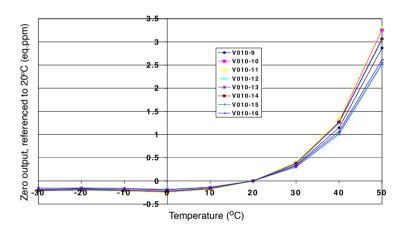
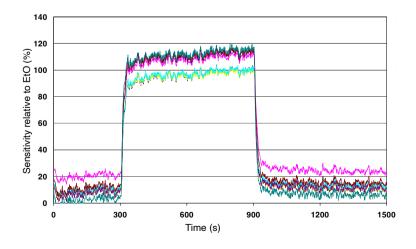


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

Figure 3 Cross Sensitivity Study to 3.8 ppm Formaldehyde



The ETO-B1 responds to most VOCs that are electrochemically active.

The bias voltage of +300mV is optimum for Ethylene Oxide but needs adjusting when measuring other VOCs.

Response to formal dehyde with +300 mV bias is shown.

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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