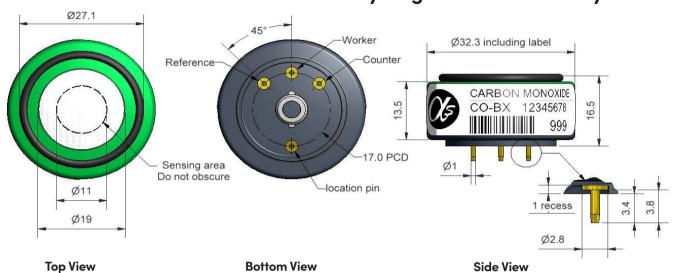
Technical specifications Version 1.0

CO-BX Carbon Monoxide Sensor – Low Hydrogen Cross Sensitivity



Dimensions are in millimetres (± 0.1 mm).

Performance	Sensitivity Response time Zero current Resolution Range Linearity Overgas limit	nA/ppm in 400ppm CO t90 (s) from zero to 400ppm CO ppm equivalent in zero air RMS noise (ppm equivalent) ppm limit of performance warranty ppm CO error at full scale, linear at zero, 1000ppm CO maximum ppm for stable response to gas pulse		70 to 130 < 25 < ± 3 < 0.5 2,000 < ± 20 5,000
Lifetime	Zero drift Sensitivity drift Operating life	ppm equivalent change/year in lab air % change/year in lab air, monthly test months until 80% original signal (24-month warranted)		< 0.2 < 3 > 24
Environmental	Sensitivity @ -20°C Sensitivity @ 0°C Sensitivity @ 50°C Zero @ -20°C Zero @ 0°C Zero @ 50°C	(% output @ -20°C/output @ 20°C) @ 400ppm CO (% output @ 0°C/output @ 20°C) @ 400ppm CO (% output @ 50°C/output @ 20°C) @ 400ppm CO ppm equivalent change from 20°C ppm equivalent change from 20°C ppm equivalent change from 20°C		40 to 60 65 to 85 110 to 130 < 0 to 4 < 0 to 3 < 0 to -6
Cross Sensitivity	Filter capacity Filter capacity Filter capacity Filter capacity Filter capacity H ₂ S sensitivity NO ₂ sensitivity Cl ₂ sensitivity NO sensitivity SO ₂ sensitivity H ₂ sensitivity C ₂ H ₄ sensitivity NH ₃ sensitivity	ppm·hrs ppm·hrs ppm·hrs ppm·hrs ppm·hrs % measured gas @ 20ppm % measured gas @ 10ppm % measured gas @ 50ppm % measured gas @ 20ppm % measured gas @ 20ppm % measured gas @ 400ppm	H_2S NO_2 NO SO_2 H_2S NO_2 CI_2 NO SO_2 H_2 at $20^{\circ}C$ C_2H_4 NH_3	160,000 120,000 120,000 160,000 < 0.1 < -3 < -0.1 < -5 < 0.1 < 5 < 10 < 0.1
Key Specifications	Temperature range Pressure range Humidity range Storage period Load resistor Weight	$^{\circ}\text{C}$ kPa $^{\circ}\text{rh}$ continuous months @ 3 to 20 $^{\circ}\text{C}$ (stored in sealed pot) $^{\circ}$ (recommended) $^{\circ}$		-30 to 50 80 to 120 15 to 90 6 10 to 47 < 13

Figure 1 Sensitivity Temperature Dependence

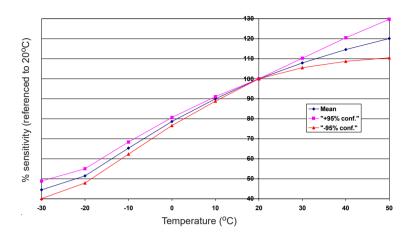


Figure 1 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

The mean and ±95% confidence intervals are shown.

Figure 2 Zero Temperature Dependence

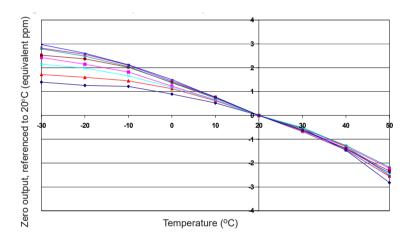
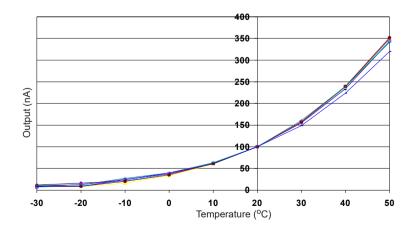


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

Figure 3 Hydrogen Temperature Dependence



Hydrogen sensitivity is very dependent on temperature.

At low temperatures hydrogen sensitivity can be ignored, but above 30°C it is important.

Important. The CO-BX must be operated with a 0 Volt bias between Reference & Working electrodes. Failure to comply with this requirement will result in a loss of its low Hydrogen cross sensitivity performance.

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.

In the interest of continued product improvement, we reserve the right to change design features and specifications without prior notification. The data contained in this document is for guidance only. Alphasense Ltd accepts no liability for any consequential losses, injury or damage resulting from the use of this document or the information contained within.(©ALPHASENSE LTD) Doc. Ref. CO-BX/SEP22