

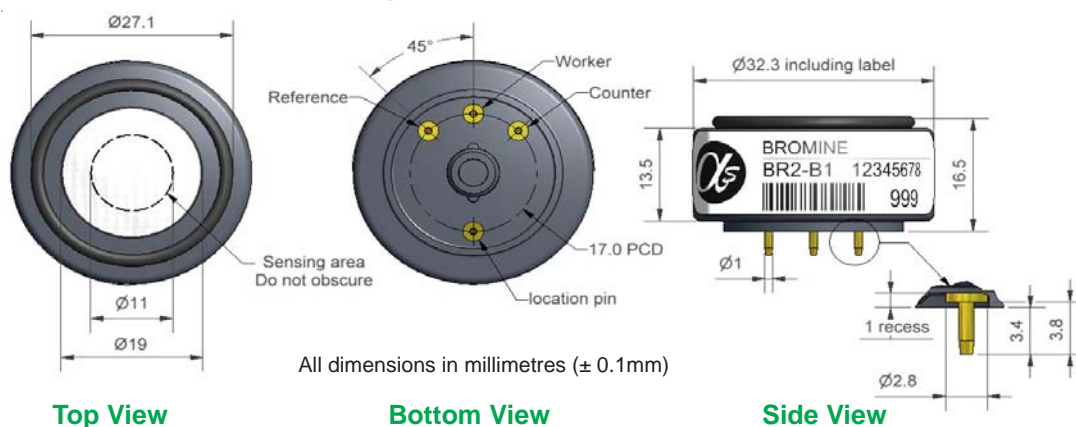


# BR2-B1 Bromine Sensor



PATENTED

Figure 1 BR2--B1 Schematic Diagram



PERFORMANCE	Sensitivity	nA/ppm in 10ppm Br <sub>2</sub>	-600 to -950		
	Response time	t <sub>90</sub> (s) from zero to 10ppm Br <sub>2</sub> (33Ω load resistor)	< 60		
	Zero current	ppm equivalent in zero air	± 0.1		
	Resolution	RMS noise (ppm equivalent) (33Ω load resistor)	< 0.02		
	Range	ppm limit of performance warranty	10		
	Linearity	ppm error at full scale, linear at zero and 10ppm Br <sub>2</sub>	<± 0.15		
	Overgas limit	maximum ppm for stable response to gas pulse	30		
LIFETIME	Zero drift	ppm equivalent change/year in lab air	< 0.03		
	Sensitivitydrift	% 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) @ 10ppm	75 to 95		
	Sensitivity	@ 50°C% (output @ 50°C/output @ 20°C) @ 10ppm	98 to 110		
	Zero @ -20°C	ppm equivalent change from 20°C	± 0.3		
	Zero @ 50°C	ppm equivalent change from 20°C	<± 0.2		
	Zero slope	equivalent ppm/K	-0.003		
CROSS SENSITIVITY	H <sub>2</sub> S	sensitivity	% measured gas @ 20ppm	H <sub>2</sub> S	-100
	NO <sub>2</sub>	sensitivity	% measured gas @ 10ppm	NO <sub>2</sub>	100
	NO	sensitivity	% measured gas @ 50ppm	NO	< 0.5
	SO <sub>2</sub>	sensitivity	% measured gas @ 20ppm	SO <sub>2</sub>	< -2
	CO	sensitivity	% measured gas @ 400ppm	CO	< 0.1
	H <sub>2</sub>	sensitivity	% measured gas @ 400ppm	H <sub>2</sub>	< 0.1
	C <sub>2</sub> H <sub>4</sub>	sensitivity	% measured gas @ 400ppm	C <sub>2</sub> H <sub>4</sub>	< 0.1
	NH <sub>3</sub>	sensitivity	% measured gas @ 20ppm	NH <sub>3</sub>	< 0.1
	Cl <sub>2</sub>	sensitivity	% measured gas @ 100ppm	Cl <sub>2</sub>	100
KEY SPECIFICATIONS	Temperature range	°C	-20 to 50		
	Pressure range	kPa	80 to 120		
	Humidity range	% rh continuous (see note below)	15 to 90		
	Bias voltage	-250mV bias recommended (not required)			
	Storage period	months @ 3 to 20°C (stored in sealed pot)	6		
	Load resistor	Ω (for optimum performance)	33		
	Weight	g	< 13		

Note: Above 85% rh and 40°C a maximum continuous exposure period of 10 days is warranted. Where such exposure occurs the sensor will recover normal electrolyte volumes when allowed to rest at lower % rh and temperature levels for several days.



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.

Technical Specification



# BR2-B1 Performance Data

## Technical Specification

Figure 2 Zero Temperature Dependence

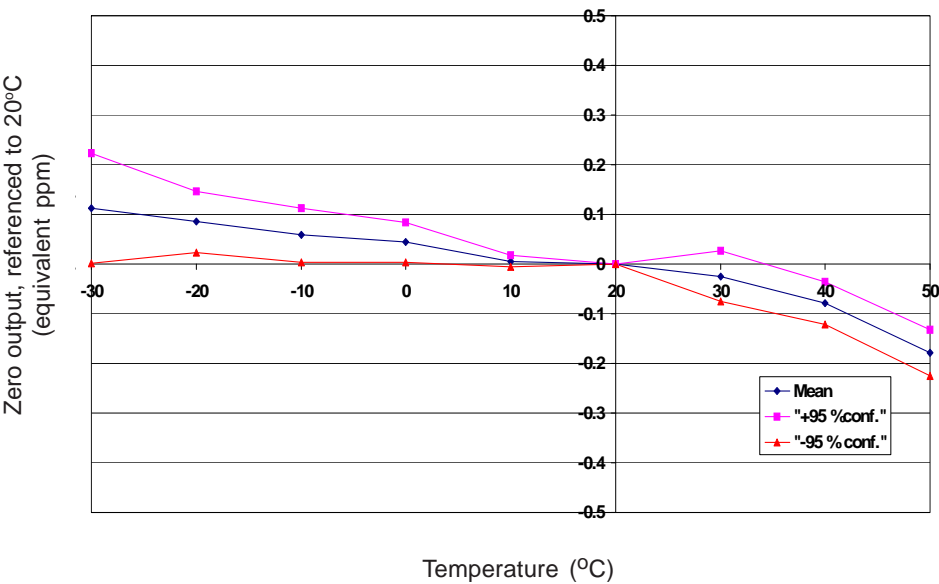


Figure 2 shows the variation in zero output caused by changes in temperature expressed as ppm gas equivalent.

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

For further information on the performance of this sensor, on other sensors in the range or any other subject, please contact Alphasense Ltd. For Application Notes visit "[www.alphasense.com](http://www.alphasense.com)".

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