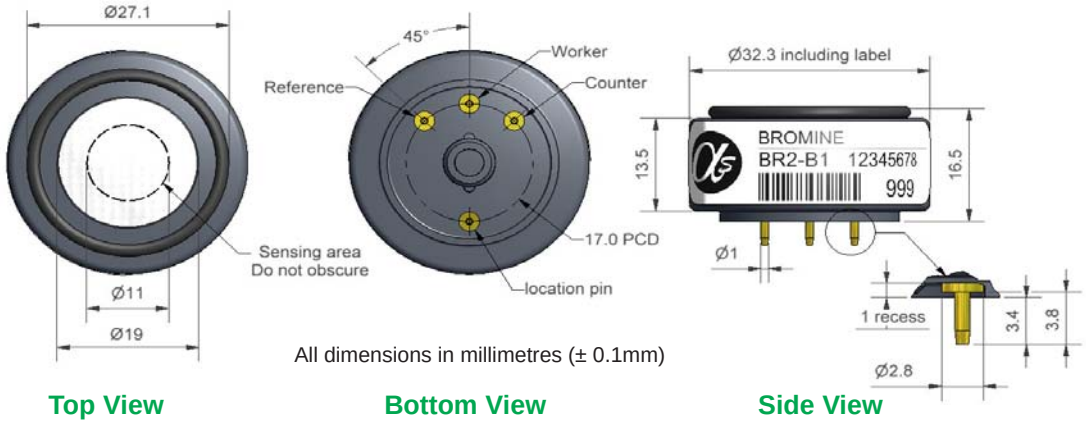
BR2-B1 Bromine Sensor

Technical Specification

PATENTED

Figure 1 BR2--B1 Schematic Diagram



All dimensions in millimetres (± 0.1mm)

Top View **Bottom View** **Side View**

PERFORMANCE	Sensitivity	nA/ppm in 10ppm Br_2	-600 to -950
	Response time	t_{90} (s) from zero to 10ppm Br_2 (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_2	<± 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_2S	sensitivity	% measured gas @ 20ppm	H_2S	-100
	NO_2	sensitivity	% measured gas @ 10ppm	NO_2	100
	NO	sensitivity	% measured gas @ 50ppm	NO	< 0.5
	SO_2	sensitivity	% measured gas @ 20ppm	SO_2	< -2
	CO	sensitivity	% measured gas @ 400ppm	CO	< 0.1
	H_2	sensitivity	% measured gas @ 400ppm	H_2	< 0.1
	C_2H_4	sensitivity	% measured gas @ 400ppm	C_2H_4	< 0.1
	NH_3	sensitivity	% measured gas @ 20ppm	NH_3	< 0.1
	Cl_2	sensitivity	% measured gas @ 100ppm	Cl_2	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.

NOTE: all sensors are tested at ambient environmental conditions, with 10 ohm load resistor, 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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BR2-B1 Performance Data

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Figure 2 Zero Temperature Dependence

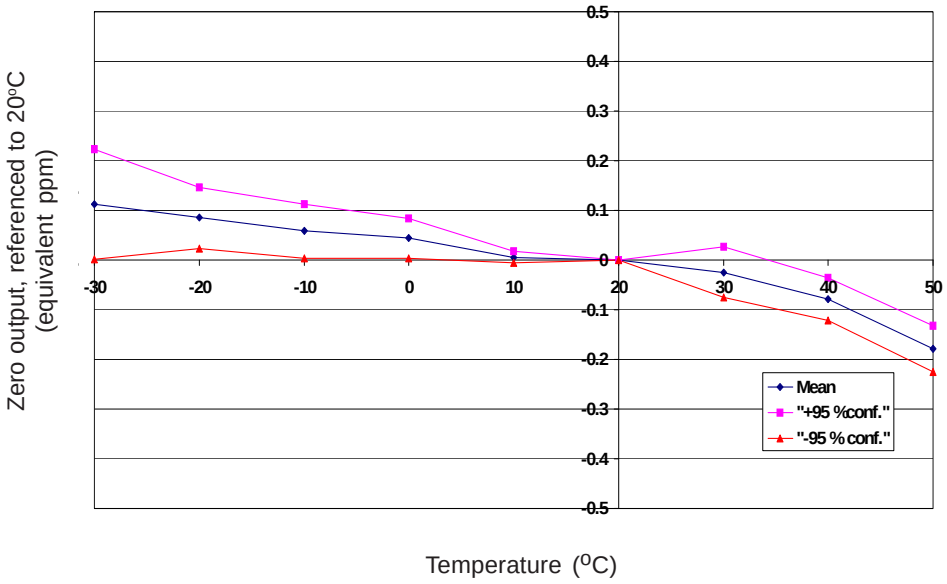

Figure 2 shows the variation in zero output caused by changes in temperature expressed as ppm gas equivalent.

This data is taken from a typical batch of sensors. The mean and ±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".