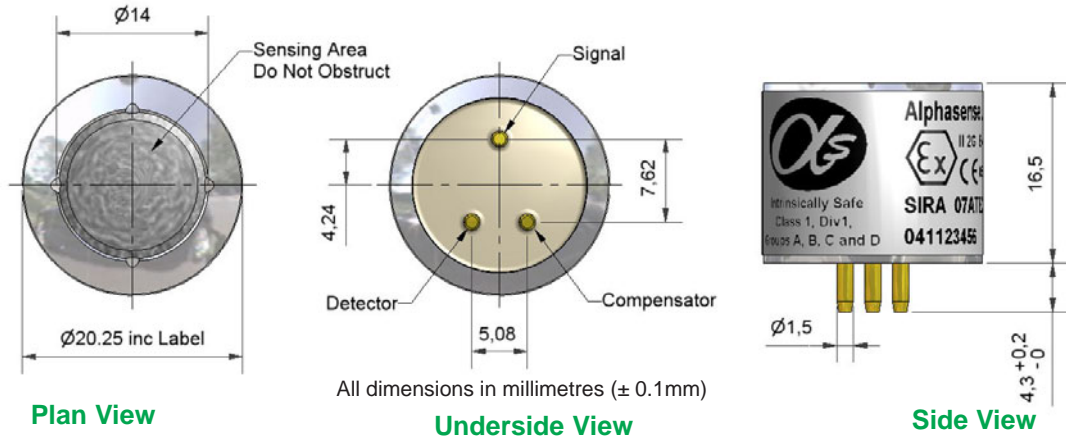




CH-A3 Combustible Gas Pellistor



Figure 1 CH-A3 Schematic Diagram



Technical Specification


PERFORMANCE	Parameter	Value	Value
	Sensitivity	mV / % methane	15 to 21
	Response time	t_{90} from air to 50% LEL methane (s)	< 15 (Typically < 7)
	Zero	mV in zero air	± 20
	Range	% LEL methane	0 to 100
	Linearity	% methane when 5% non-linear	6


ENVIRONMENTAL	Parameter	Value	Value
	Sensitivity @ -20°C	% sensitivity change, referenced to 20°C	104.5 to 106.5
	Sensitivity @ 50°C	% sensitivity change, referenced to 20°C	101.5 to 102.5
	Zero @ -20°C	% LEL change, referenced to 20°C	< -1.5
	Zero @ 50°C	% LEL change, referenced to 20°C	< -1.5
	Temperature Range	Certification to T4	-40° to 55°C
	Pressure	Less than 3% sensitivity change from 0 to 75kPa (gauge)	

INHIBITION/POISONING	Parameter	Value	Value
	Chlorine	12hrs 20ppm Cl_2 , 50% LEL sensitivity loss	< 10% loss
	Hydrogen Sulfide	12hrs 40ppm H_2S , 50% LEL sensitivity loss	< 50% loss
	HMDS	hrs until 50% activity loss @ 10ppm HMDS	9

SENSITIVITY	Parameter	Value	Value
	Propane	% sensitivity, relative to methane	150 to 190
	Ethylene	% sensitivity, relative to methane	150 to 170
	Nonane	% sensitivity, relative to methane	150 to 170
	Acetylene	% sensitivity, relative to methane	150 to 170
	Butane	% sensitivity, relative to methane	150 to 180
	Isobutylene	% sensitivity, relative to methane	180 to 200
	Hydrogen	% sensitivity, relative to methane	130 to 140
	n-pentane	% sensitivity, relative to methane	180 to 200
	Carbon Monoxide	% sensitivity, relative to methane	42 to 44

ELECTRICAL	Parameter	Value	Value
	Voltage	V (± 0.2 V)	3.0
	Power consumption	mW	190
	Voltage sensitivity	% sensitivity change / 0.1V change	3

Sira 07ATEX 1088X	 II 2 G Ex d IIC T4 -40°C to 55°C 5V, 1.4W	IECEx SIR07.0031X Ex d IIC T4 5VRc, 1.4W, T_a -40° to 55°C
UL913 091007-E253708	Class I, II and III, Division 1 10V, 1.5W, 10 μ H	CSA 22.2 1906313 Class 4828 31

 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 methane, 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.



CH-A3 Performance Data

Technical Specification

Figure 2 Sensitivity Temperature Dependence

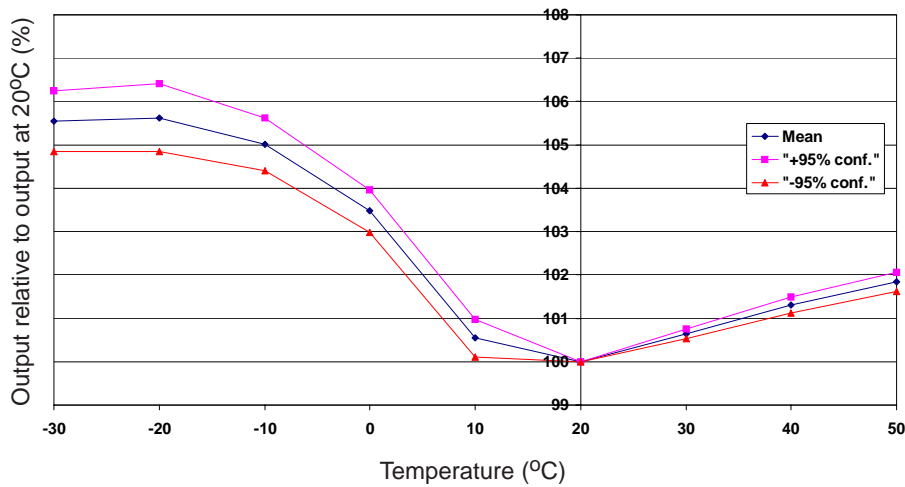


Figure 2 shows the variation in sensitivity caused by changes in temperature.

Data are taken from a typical batch of sensors and the mean and $\pm 95\%$ confidence intervals are shown.

Figure 3 Linearity

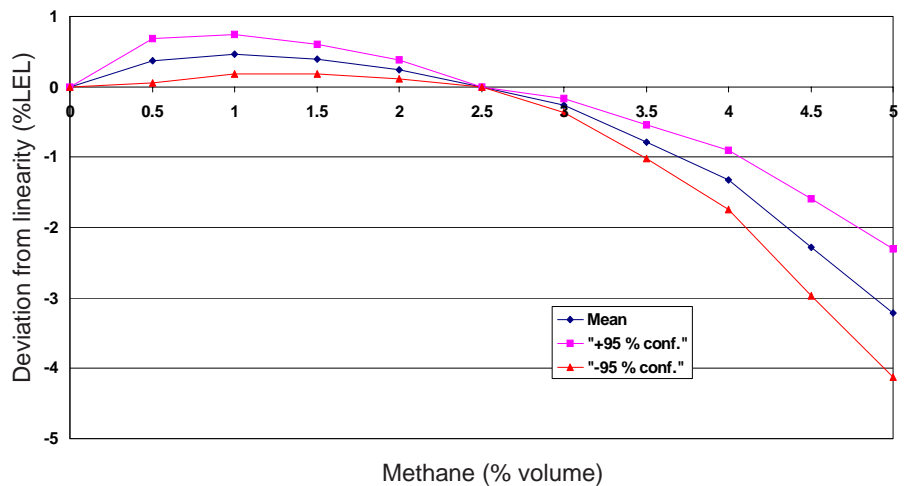
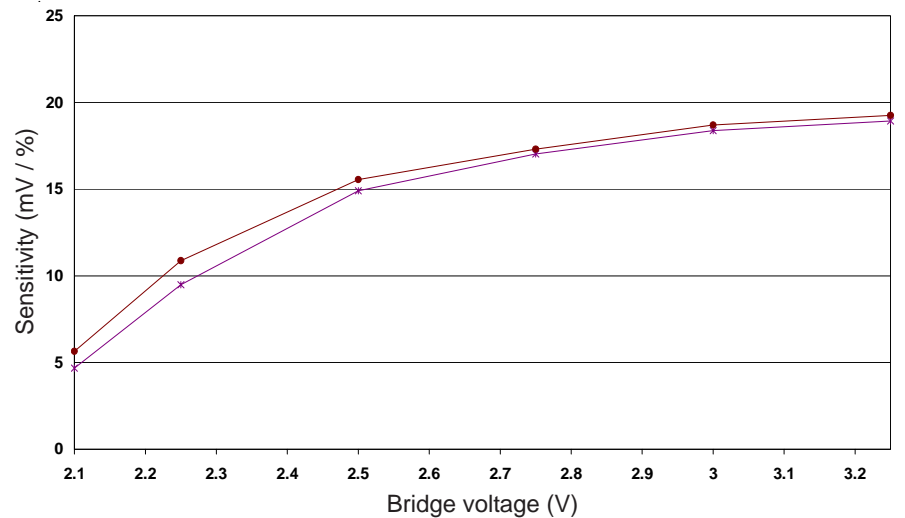


Figure 3 shows the non-linearity from 0 to 5% methane (volume). Sensor non-linearity at 100% LEL is less than 4%.

Data are taken from a typical batch of sensors and the mean and $\pm 95\%$ confidence intervals are shown.

Figure 4 Voltage Sensitivity



Sensitivity remains nearly constant over small voltage variations. Accurate setting of the pellistor voltage is not necessary.

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".

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