



# CH-D3 Combustible Gas Pellistor

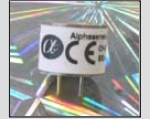
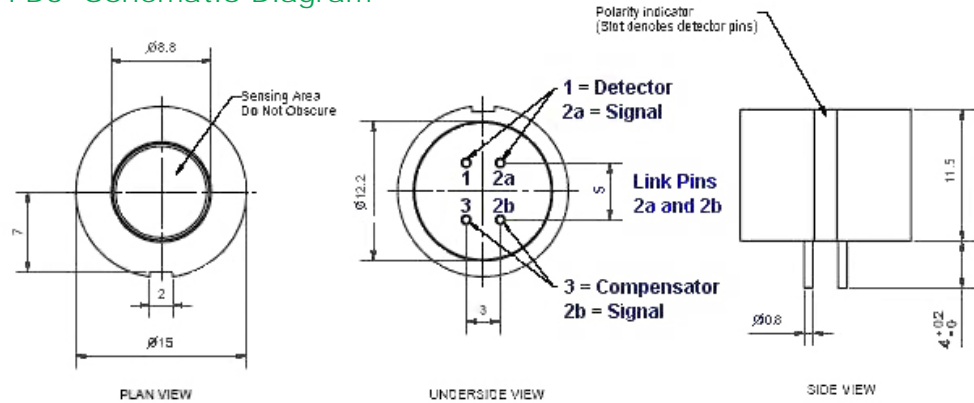


Figure 1 CH-D3 Schematic Diagram



All dimensions in millimetres ( $\pm 0.1$ mm)

Plan View

Underside View

Side View

Technical Specification

<b>PERFORMANCE</b>	Sensitivity	mV / % methane	11 to 17
	Response time	$t_{90}$ from air to 50% LEL methane (s)	< 12 (typically 7)
	Zero	mV in zero air	$\pm 20$
	Range	% LEL methane	0 to 100
	Linearity	% methane when 5% non-linear	6
<b>ENVIRONMENTAL</b>	Sensitivity @ -20°C	% sensitivity change, referenced to 20°C	103 to 105
	Sensitivity @ 50°C	% sensitivity change, referenced to 20°C	101 to 102
	Zero @ -20°C	% LEL change, referenced to 20°C	< +0.5
	Zero @ 50°C	% LEL change, referenced to 20°C	< -0.5
	Temperature Range	Certification to T6	-40° to 45°C
<b>SENSITIVITY</b>	n-pentane	% LEL pentane / % LEL methane	0.50
	acetylene	% LEL acetylene / % LEL methane	0.70
	HMDS	hrs until 50% activity loss @ 10ppm HMDS	10
<b>ELECTRICAL</b>	Voltage	V ( $\pm 0.2$ 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 50°C 5V, 1.4W	IECEx SIR07.0031X Ex d IIC T4 5VRc, 1.25W, T <sub>a</sub> -40° to 50°C
UL913 091007-E253708	Class I, II and III, Division 1 10V, 1.5W, 10 $\mu$ H	CSA 22.2 1906313 Class 4828 31

**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-D3 Performance Data

# Technical Specification

Figure 2 Voltage Sensitivity

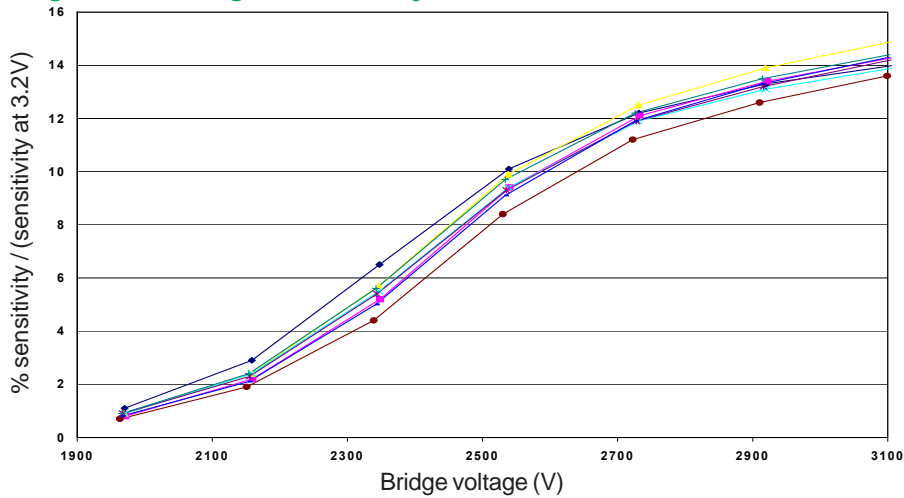


Figure 2 shows the variation in sensitivity caused by changes in pellistor voltage. The pellistor is relatively insensitive to small voltage variations at 3volts, avoiding individual bridge voltage adjustments.

Data are taken from a typical batch of sensors.

Figure 3 Zero Temperature Dependence

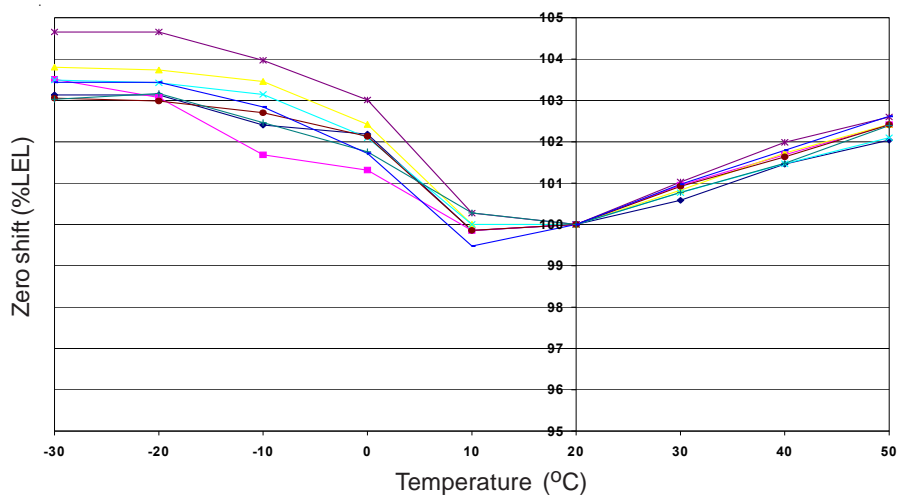
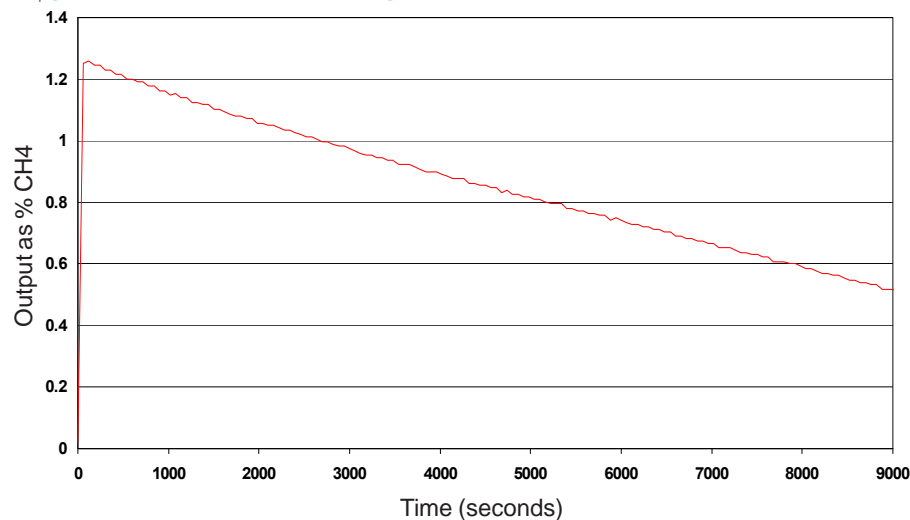


Figure 3 shows the variation in output caused by changes in temperature, expressed as % change, referenced to 20°C.

Figure 4 HMDS Poisoning



When exposed to 42ppm HMDS in 25% LEL methane, sensitivity loss is slower than equivalent pellistors.

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)".