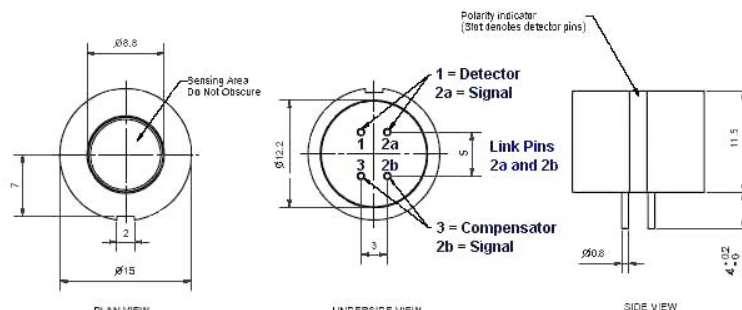




CH-D3 Combustible Gas Pellistor



Figure 1 CH-D3 Schematic Diagram



All dimensions in millimetres (± 0.1 mm)

Plan View

Underside View

Side View

PERFORMANCE	Parameter	Specification	Value
	Sensitivity	mV / % methane	13 to 18.5
	Response time	t_{90} from air to 50% LEL methane (s)	< 12
	Zero	mV in zero air	± 25
	Range	% LEL methane	0 to 100
	Linearity	% methane when 5% non-linear	6

ENVIRONMENTAL	Parameter	Specification	Value
	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

SENSITIVITY	Gas	Specification	Value
	n-pentane	% LEL pentane / % LEL methane	0.50
	acetylene	% LEL acetylene / % LEL methane	0.70
	HMDS	hrs until 50% activity loss @ 10ppm HMDS	10

ELECTRICAL	Parameter	Specification	Value
	Voltage	V (± 0.1 V)	3.0
	Power consumption	mW	190
	Voltage sensitivity	% sensitivity change / 0.1V change	<2



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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.

Technical Specification



CH-D3 Performance Data

Technical Specification

Figure 2 Voltage Sensitivity

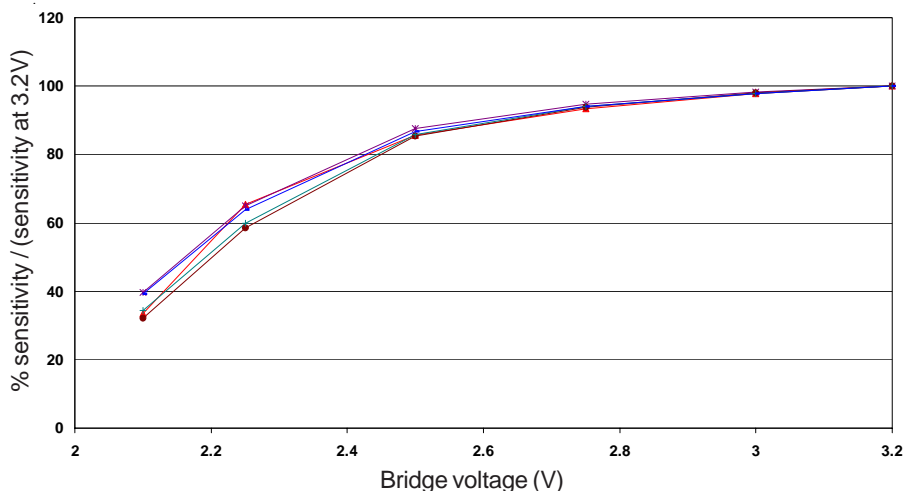


Figure 2 shows the variation in sensitivity caused by changes in pellistor voltage. The pellistor is relatively insensitive to small voltage variations, avoiding individual bridge voltage adjustments.

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

Figure 3 Zero Temperature Dependence

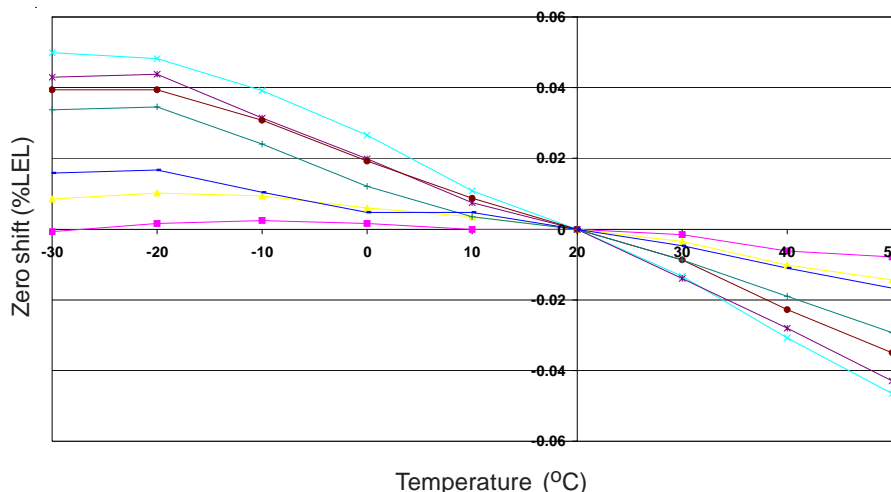
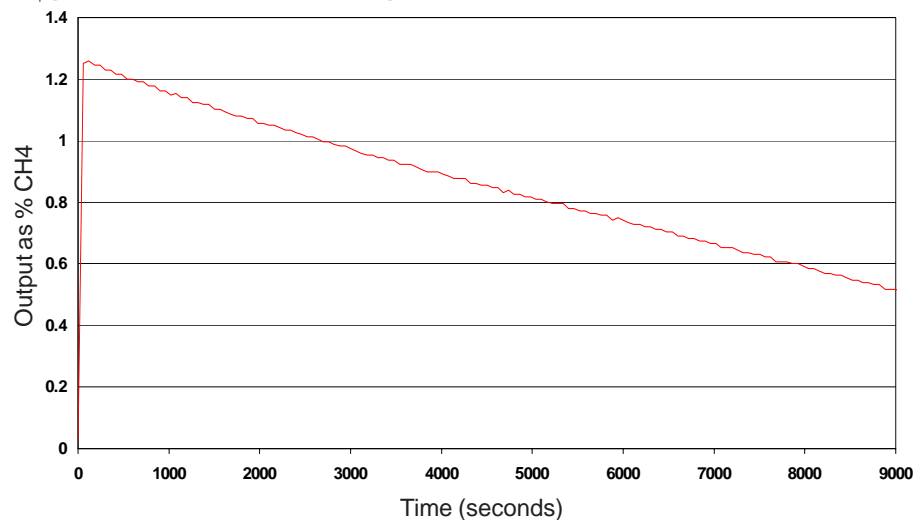


Figure 3 shows the variation in zero output caused by changes in temperature, expressed as % methane. Zero shifts less than $\pm 0.1\%$ LEL from -30°C to $+50^\circ\text{C}$.

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".