

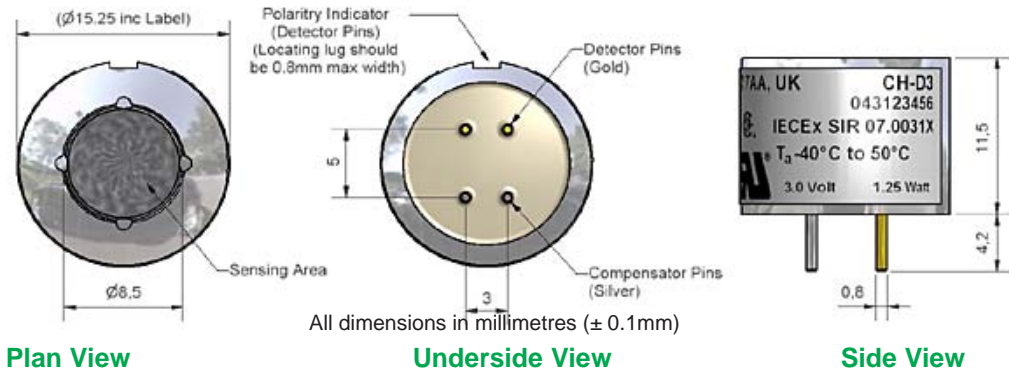


CH-D3 Combustible Gas Pellistor

Miniature Size



Figure 1 CH-D3 Schematic Diagram



PERFORMANCE	Parameter	Value	Range
PERFORMANCE	Sensitivity	mV / % methane	10 to 17
	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	Value	Range
ENVIRONMENTAL	Sensitivity @ -20°C	% sensitivity change, referenced to 20°C	100.5 to 105.5
	Sensitivity @ 50°C	% sensitivity change, referenced to 20°C	102 to 103
	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 50°C
	Humidity	12% sensitivity loss from 0% to 80% rh (22°C)	
	Pressure	Typically +0.8mV zero increase from 0 to 80%rh (22°C) Sensitivity change from 0 to 75kPa (gauge)	<3%

INHIBITION/POISONING	Parameter	Value	Range
INHIBITION/POISONING	Chlorine	12hrs 20ppm Cl ₂ , 50% LEL sensitivity loss	<10% loss
	Hydrogen Sulfide	12hrs 40ppm H ₂ S, 50% LEL sensitivity loss	<50% loss
	HMDS	hrs until 50% activity loss @ 10ppm HMDS	10

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

Limits of Use			
Sira 07ATEX 1088X		II 2 G Ex d IIC T4 -40°C to 50°C 5V, 1.25W	IECEX SIR07.0031X Ex d IIC T4 5VRc, 1.25W, T _a -40° to 50°C
UL913 091007-E253708		Class I, II and III, Division 1 10V, 1.5W, 10 μ H	CSA 22.2 1906313 Class 4828 31

SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

The non-metallic parts of the Flameproof Sensor Housings shall only be installed in enclosures that offer protection from mechanical impact damage and shall not be exposed to ultraviolet radiation.

The final installation of the Flameproof Sensor Housings shall ensure that any likely damage from dropping the complete device has been considered.

The Flameproof Sensor Housings shall only be connected to an electrical supply that is certified as compliant with IEC 60079-11 and limited to the following: Type D - 5 Vdc, 1.25 W



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.

Technical Specification



CH-D3 Performance Data

Technical Specification

Figure 2 Voltage Sensitivity

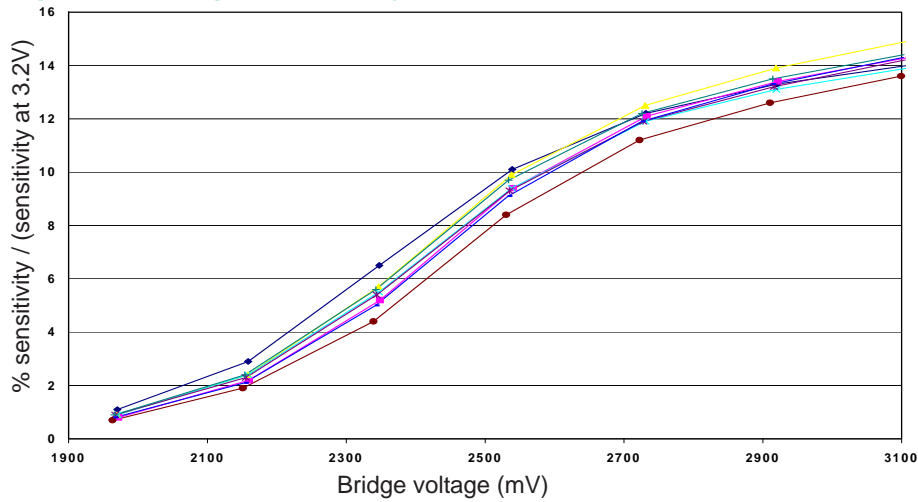


Figure 2 shows the variation in sensitivity caused by changes in pellistor voltage. The pellistor is relatively insensitive to small voltage variations at 3volts, avoiding individual bridge voltage adjustments.

Data are taken from a typical batch of sensors.

Figure 3 Zero Temperature Dependence

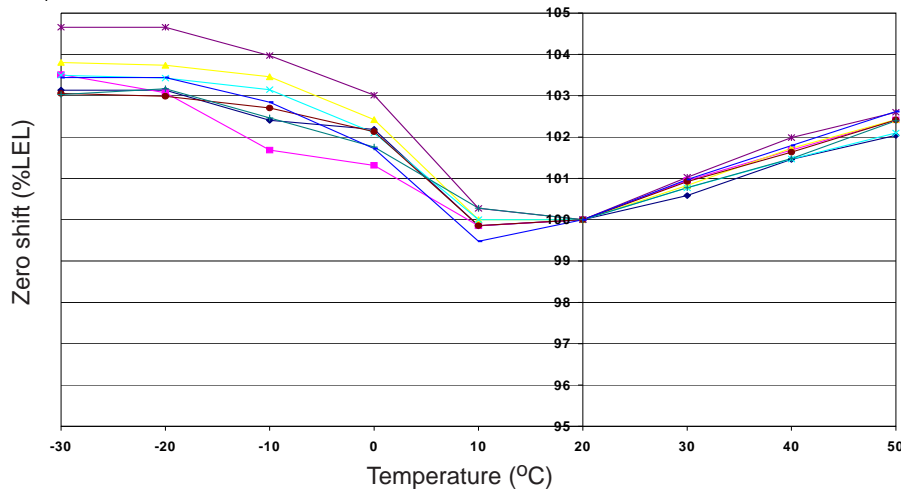


Figure 3 shows the variation in output caused by changes in temperature, expressed as % change, referenced to 20°C.

Table 1 Sensitivity

Sensor type	% sensitivity relative to methane
Hydrogen	120 to 140
Ethane	120 to 140
Propane	140 to 170
Butane	150 to 180
Pentane	170 to 200
Hexane	190 to 220
Heptane	190 to 220
Octane	200 to 230
Nonane	190 to 220
Ethene	150 to 170
Acetylene	140 to 160
Isobutylene	170 to 190

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".

In the interest of continued product improvement, we reserve the right to change design features and specifications without prior notification. The data contained in this document is for guidance only. Alphasense Ltd accepts no liability for any consequential losses, injury or damage resulting from the use of this document or the information contained within. (©ALPHASENSE LTD) Doc. Ref. CHD3/JUN11