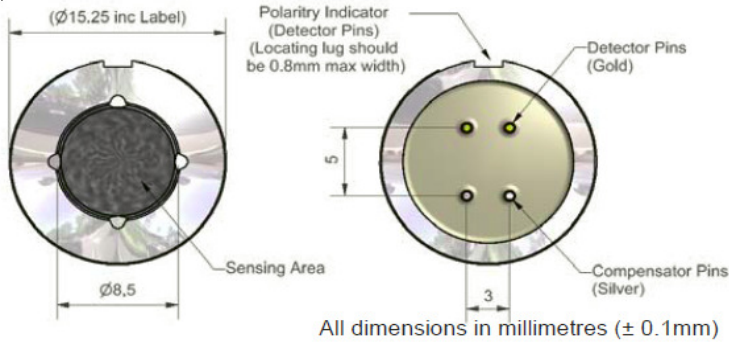




# US<sup>3</sup> CH<sub>4</sub> Sensor

## Sensor Data Sheet



*For explosive and asphyxia  
risks management*

### Benefits:

- ◆ High sensitivity of CH<sub>4</sub> detection
- ◆ Log from 0 to 100% of methane LEL
- ◆ Gases monitoring anywhere and anytime

### SENSOR US<sup>3</sup> CH<sub>4</sub> PERFORMANCE

Sensitivity	mV / % methane	10 to 17
Response time	T <sub>90</sub> (s) from air to 50% LEL methane	< 12
Zero	mV in zero air	± 25
Range	% LEL methane	0 to 100
Linearity	% methane when 5 % non-linear	6

### SENSOR US<sup>3</sup> CH<sub>4</sub> KEY SPECIFICATION

Temperature range	°C	-40 to 50
Pressure	Sensitivity change from 0 to 75 kPa	< 3 %
Humidity	12% sensitivity loss from 0% to 80% rh (22°C)	< 1.0
	Typical zero increase % LEL from 0 to 80% rh (22°C)	

### SENSOR US<sup>3</sup> CH<sub>4</sub> ENVIRONMENTAL

Sensitivity at -20°C	% sensitivity change, referenced to 20°C	101.5 to 104.5
Sensitivity at 50°C	% sensitivity change, referenced to 20°C	101.5 to 103
Zero at -20°C	% LEL change, referenced to 20°C	< ± 2
Zero at 50°C	% LEL change, referenced to 20°C	< +0.5to -1.5

## Utility Systems Science & Software

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# US<sup>3</sup> CH<sub>4</sub> Sensor

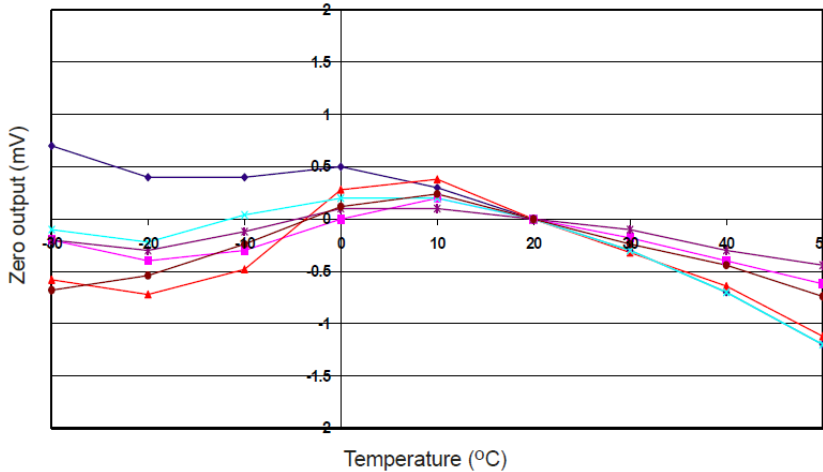
## Sensor Data Sheet

### Sensitivity

Hydrocarbon/ Gas	% Sensitivity relative to methane	% LEL Sensitivity to Methane
Hydrogen	120 to 140	150 to 175
Ethane	120 to 140	200 to 230
Propane	140 to 170	330 to 400
Butane	150 to 180	470 to 570
n-Pentane	170 to 200	570 to 670
Hexane	190 to 220	860 to 900

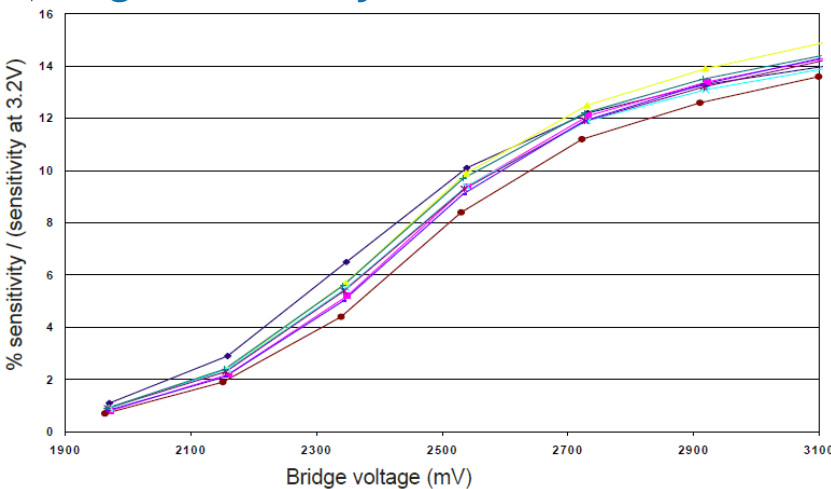
Hydrocarbon/ Gas	% Sensitivity relative to methane	% LEL Sensitivity to Methane
Heptane	190 to 220	900 to 1050
Octane	200 to 230	100 to 1150
Nonane	190 to 220	830 to 950
Acetylene	140 to 160	280 to 320
Ethylene	150 to 170	275 to 320
Isobutylene	170 to 190	425 to 475

### Zero temperature dependence US<sup>3</sup> CH<sub>4</sub> sensor



This figure shows the variation in zero caused by changes in temperature. Expressed as mV change, referenced to 20 °C. 1 mV is equivalent to typically 0.8% LEL.

### Voltage sensitivity US<sup>3</sup> CH<sub>4</sub> sensor



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

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