AsH3 1 zero H2

Electrochemical Gas Sensor for Arsine



3-electrode sensor for industrial safety applications in the presence of H2 Class leading stability | Highly selective | Fast response | Very stable baseline

Performance Characteristics		
Measurement Range	0 - 1 ppm	
Sensitivity	600 ± 200 nA/ppm	
Response Time (T ₉₀)	≤ 60 s at 2 min gas exposure	
Baseline (in clean air)	< ± 10 nA	
Baseline (in clean air)	< ± 0.02 ppm*	
Linearity	< 5% of full scale	
Repeatability	< 2%	

^{*} at midpoint sensitivity

Operating Conditions	
Temperature Range	-40°C to +40°C*
Humidity Range	15% to 90% r.h. non-condensing
Pressure Range	800 – 1200 hPa
Recommended Load Resistor	100 Ohm
Bias Voltage	0 V
Recommended Orientation	sensor front pointing downwards or sidewards

^{*} Temporary exposure up to 50°C is acceptable (a few hours per week or a few days per year). Additional bump testing is recommended in case of extended exposure which will decrease lifetime.

Lifetime		
Long Term Output Drift	< 5% per month	
Expected Operating Life	> 18 months in air	
Recommended Storage conditions	5 – 20°C in sealed container	
Warranty	12 months from date of dispatch	

Performance and lifetime data are based on conditions at 20°C, 50% r.h. and ambient pressure.

Available Formats		
Name Part Number Weight	Drawing	
4S AN232400 ~4.6 g	laur Label (SxLOmm)	
7S AN232700 ~6.9 g	Your Label (45x10mm)	
Mini AN232000 ~2.4 g	four Label (Sx10mm)	
Classic 4 pin AN232C00 ~3.1 g	Your Label (45x10mm)	
Classic 8 pin compatible AN232B00 ~3.1 g	lour Label (Sxt Omm)	
Smart 8p with EPROM AN232800 ~3.1 g	Your Label (65x10mm)	
Other customer specific formats upon request		

IMPORTANT NOTE:

Connection should be made via PCB sockets only. Soldering to pins will render your warranty void.

Intrinsic Safety Data / PSDS		
Maximum o/c Voltage	< 1.3 V	
Maximum s/c Current	< 1.0 A	
Product Safety Datasheet (PSDS)	Organic Gel Electrolyte	

SAFETY NOTE

This sensor is designed to be used in safety critical applications. To ensure that the sensor and/or instrument in which it is used, are operating properly, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. In stationary installations this needs to be repeated regularly according to national and local regulations. Failure to carry out such tests may jeopardize the safety of people and property.

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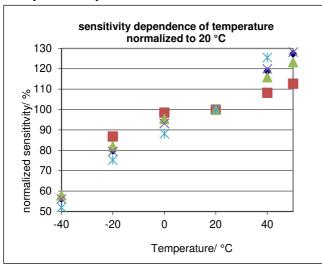


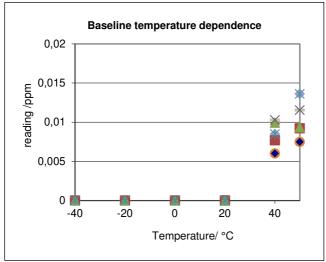
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Temperature performance





Temperature Coefficients		
Temperature	Sensitivity	Zero Current
-40 °C	56 %	0.000 ppm
-20 °C	80 %	0.000 ppm
0 °C	94 %	0.000 ppm
20 °C	100 %	0.000 ppm
40 °C	118 %	0.008 ppm
50 °C	126 %	0.010 ppm

Temperature data are taken from a typical batch.

Cross Sensitivity & Filter		
Gas concentration	Reading after 5 min	
Carbon Monoxide 100 ppm	0 ppm	
Carbon Dioxide 5000 ppm	0 ppm	
Hydrogen Sulfide 20 ppm	0 ppm*	
Hydrogen 3000 ppm	0 ppm	
Hydrogen 50%	0 ppm	
Isopropanol 600 ppm	0 ppm	
Hydrogen Chloride 5 ppm	0.1 ppm*	
Hydrogen Cyanide 5 ppm	1 ppm	
Hydrogen Fluoride 5 ppm	0 ppm	
Silane 5 ppm	0 ppm	
Phosphine 1 ppm	1.2 ppm	
Hydrocarbons (saturated) 1%	0 ppm	
Chemical Filter	Yes	

^{*} Cross sensitivity depends upon filter status and will increase when filter is depleted.

Signals below baseline are stated as 0

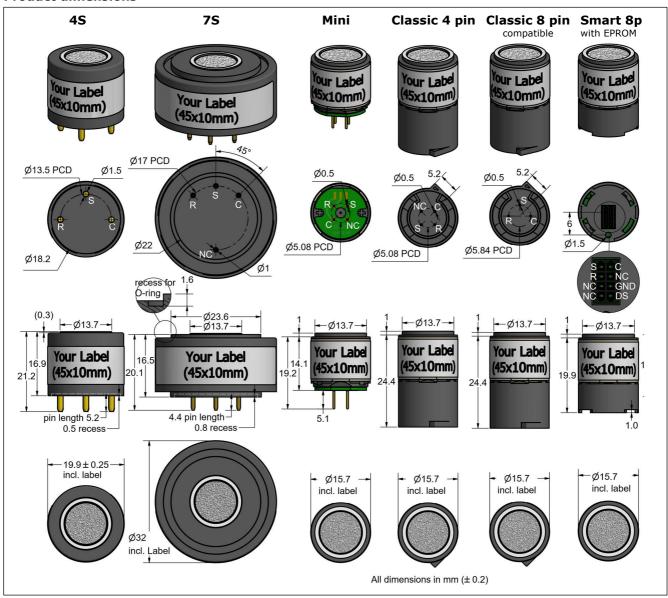
Whilst Sensorix cells are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table above is not exclusive and other gases not included in the table may still cause a sensor to react. The cross-sensitivity values quoted are based on tests conducted on a small number of sensors. They are intended to indicate sensor response to gases other than the target gas. Sensors may behave differently with changes in ambient conditions and any batch may show significant variation from the values quoted. Therefore, interfering gases should not be used for calibration.

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Product dimensions



Poisoning

Sensorix cells are designed for operation in a wide range of environments and harsh conditions. However, it is important that exposure to high concentrations of solvent vapors is avoided, both during storage, fitting into instruments, and operation. When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted.

Recycling

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 or Sensorix for disposal instructions. Sensorix will take back sensors for professional recycling.

Every effort has been made to ensure the accuracy of this document at the time of printing. In accordance with the company's policy of continued product improvement Sensorix GmbH reserves the right to make product changes without notice. No liability is accepted for any consequential losses, injury or damage resulting from the use of this document or from any omissions or errors herein. The data is given for guidance only. It does not constitute a specification or an offer for sale. The products are always subject to a program of improvement and testing which may result in some changes in the characteristics quoted. As the products may be used by the client in circumstances beyond the knowledge and control of Sensorix GmbH, we cannot give any warranty as to the relevance of these particulars to an application. It is the clients' responsibility to carry out the necessary tests to determine the usefulness of the products and to ensure their safety of operation in a particular application.

Performance characteristics on this data sheet outline the performance of newly supplied sensors. Output signal can drift below the lower limit over time.

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