# AsH3 1 LT 0F

## Electrochemical Gas Sensor for Arsine

Without H2S Filter

sensors made in germany

3-electrode sensor for industrial safety applications including semiconductor

Long lifetime | Highly selective | Fast response | Very stable baseline

| **Performance Characteristics** | |
|---|---|
| Measurement Range | 0 - 1 ppm |
| Maximum Overload | 10 ppm |
| Sensitivity | 1350 ± 550 nA/ppm |
| Response Time ($T_{90}$) | ≤ 30 s<br>at 2 min gas exposure |
| Baseline (in clean air) | < ± 20 nA |
| Baseline (in clean air) | < ± 0.015 ppm* |
| Linearity | < 10% of full scale |
| Repeatability | < 2% |

* at midpoint sensitivity

| **Operating Conditions** | |
|---|---|
| Temperature Range | -20°C to +40°C* |
| Humidity Range | 15% to 90% r.h.<br>non-condensing |
| Pressure Range | 800 – 1200 hPa |
| Recommended Load Resistor | 1500 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 | < 10% per 6 months |
| Expected Operating Life | > 18 months in air |
| Recommended Storage conditions | 5 – 20°C<br>in sealed container |
| Warranty | 12 months<br>from date of dispatch |

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

| **Available Formats** | |
|---|---|
| **Name**<br>Part Number<br>Weight | **Drawing** |
| **4S**<br>AN256400<br>~4.6 g |  |
| **7S**<br>AN256700<br>~6.9 g |  |
| **Mini**<br>AN256000<br>~2.4 g |  |
| **Classic 4 pin**<br>AN256C00<br>~3.1 g |  |
| **Classic 8 pin** compatible<br>AN256B00<br>~3.1 g |  |
| **Smart 8p** with EPROM<br>AN256800<br>~3.1 g |  |
| 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 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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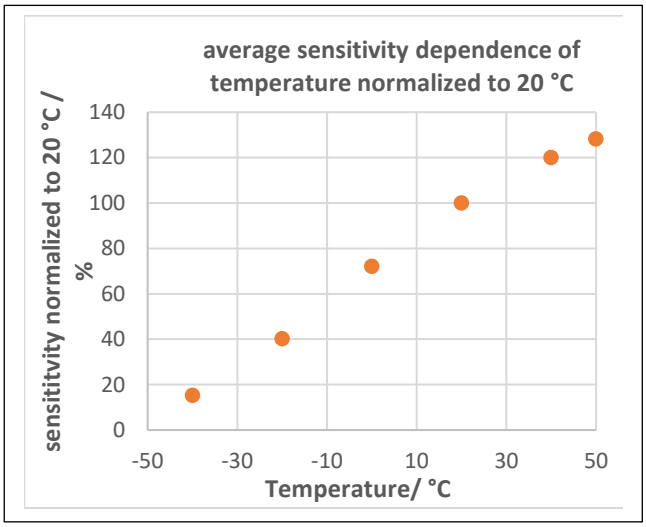
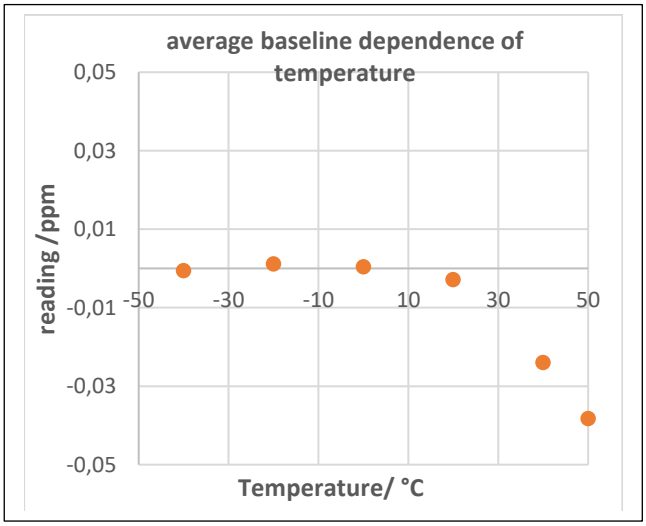
### Temperature performance




| Temperature Coefficients | | |
|---|---|---|
| Temperature | Sensitivity | Zero Current |
| -40 °C | 15.2 % | 0.00 ppm |
| -20 °C | 40.2 % | 0.00 ppm |
| 0 °C | 72.1 % | 0.00 ppm |
| 20 °C | 100 % | 0.00 ppm |
| 40 °C | 120.0 % | -0.02 ppm |
| 50 °C | 128.2 % | -0.04 ppm |

Temperature data are taken from a typical batch.

| Cross Sensitivity & Filter | |
|---|---|
| Gas concentration | Reading after 5 min |
| Ammonia 100 ppm | 0 |
| Carbon Dioxide 5000 ppm | 0 |
| Carbon Monoxide 100 ppm | 0 |
| Chlorine 1 ppm | -0,5 ppm |
| Hydrogen 3000 ppm | 0.3 ppm |
| Hydrogen Chloride 10 ppm | 0* |
| Hydrogen Fluoride 7 ppm | 0 |
| Hydrogen Sulfide 20 ppm | 2 ppm |
| Nitrogen Dioxide 8 ppm | -2.6 ppm |
| Sulfur Dioxide 10 ppm | 3.8 ppm |
| Chemical Filter | None |

* Hydrogen Chloride can cause a transient signal above baseline for <1 min

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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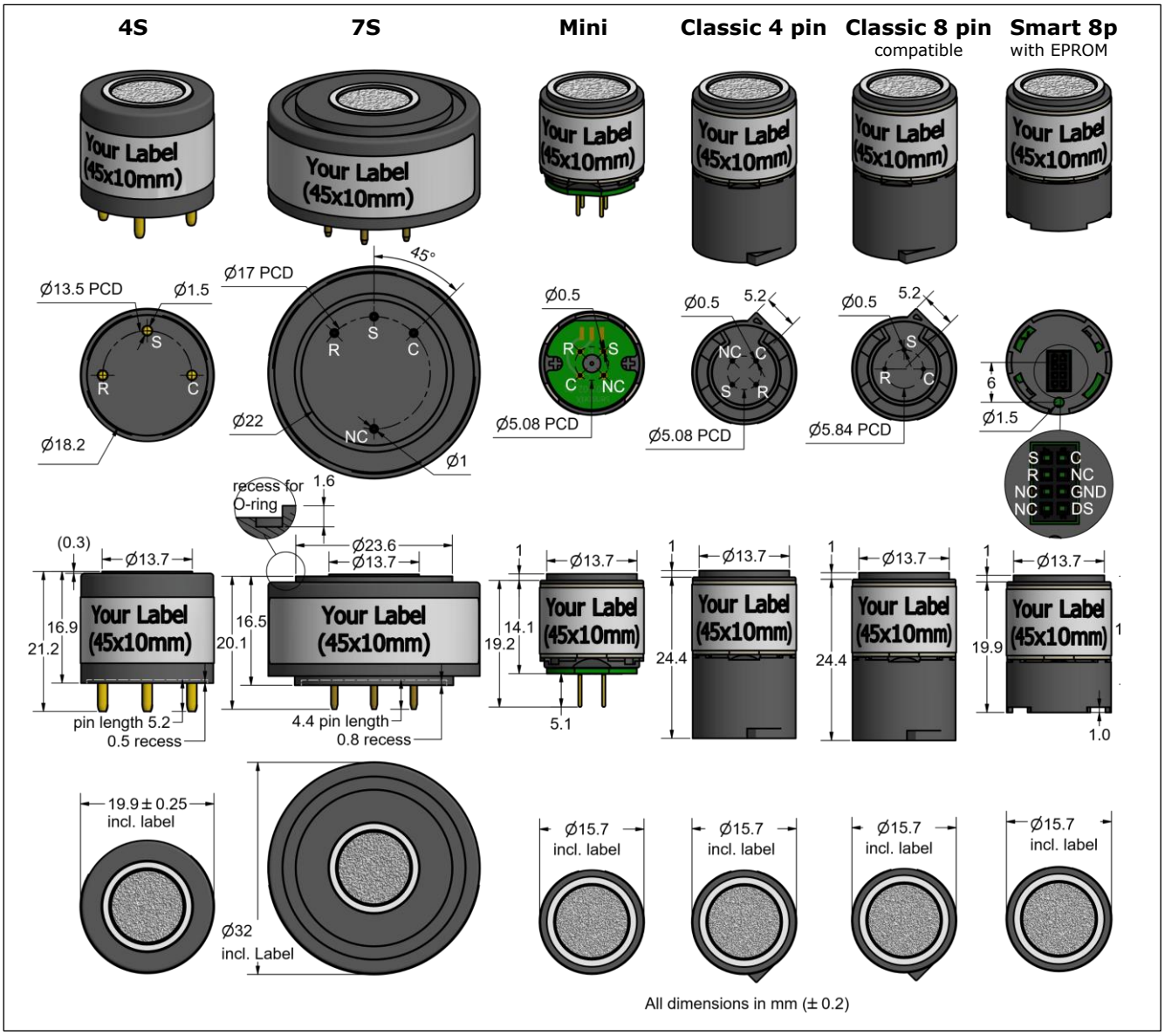
### Product dimensions




### 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.