O2 30 Port

Electrochemical Gas Sensor for Oxygen

sensorix
sensors made in germany

3-electrode sensor for portable safety applications

Class leading low power consumption | Fast response | Very stable Reading

Performance Characteristics	
Measurement Range	0 - 30 %
Signal in air	20 ± 5 µA in Air
Response Time (T_{90})	≤ 10 s at 3 min gas exposure
Signal without air	< 3 %
Linearity	Linear between 5-30 % Oxygen

* at midpoint sensitivity

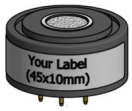
Operating Conditions	
Temperature Range	-40°C to +60°C
Humidity Range	10% to 90% r.h. non-condensing
Pressure Range	800 – 1200 hPa
Recommended Load Resistor	0 Ohm
Bias Voltage	-600 mV
Recommended Orientation	sensor front pointing downwards or sidewards

Lifetime	
Long Term Output Drift	< 2 % per 12 months
Expected Operating Life	> 60 months in air
Recommended Storage conditions	5 – 20°C in sealed container
Warranty	24 months from date of dispatch

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

IMPORTANT NOTE:

The rear side of the sensor must be adequately ventilated inside the device.

Available Formats	
Name Part Number Weight	**Drawing**
4S AN421400 ~4.6 g	
7S AN421700 ~6.9 g	
Mini AN421000 ~2.4 g	
Classic 4 pin AN421C00 ~3.1 g	
Classic 8 pin compatible AN421B00 ~3.1 g	
Smart 8p with EPROM AN421800 ~3.1 g	
Other customer specific formats upon request	

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

Intrinsic Safety Data / PSDS	
Maximum o/c Voltage	< 1.1 V
Maximum s/c Current	< 1.0 A
Product Safety Datasheet (PSDS)	Acid 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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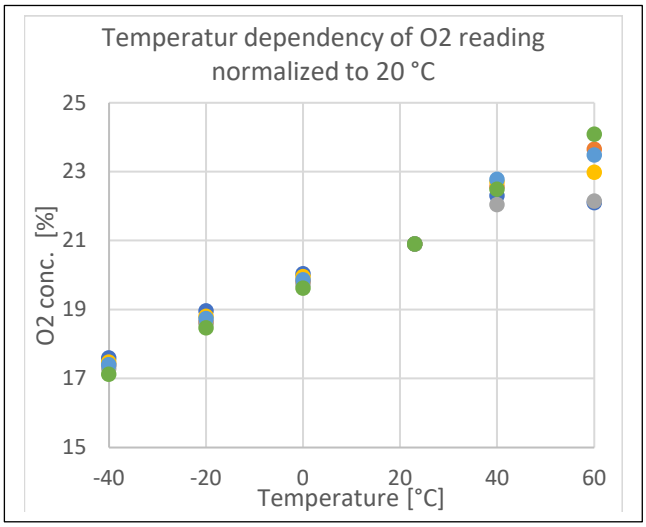
Temperature performance



Temperature Coefficients	
Temperature	Reading relative to 20 °C
-40 °C	83 %
-20 °C	89 %
0 °C	95 %
20 °C	100 %
40 °C	104 %
60 °C	106 %

Temperature data are taken from a typical batch.
(95% confidence interval?)

Cross Sensitivity & Filter	
Gas concentration	Reading after 5 min
Hydrogen 5000 ppm in air	-2 % O2 Signal
Hydrogen 4 % in N2	7.6 %
Hydrogen 50 % in N2	120 %
Helium *	0
Chemical Filter	Yes

Signals below baseline are stated as 0

* Light gases distort the measurement result and require separate calibration.

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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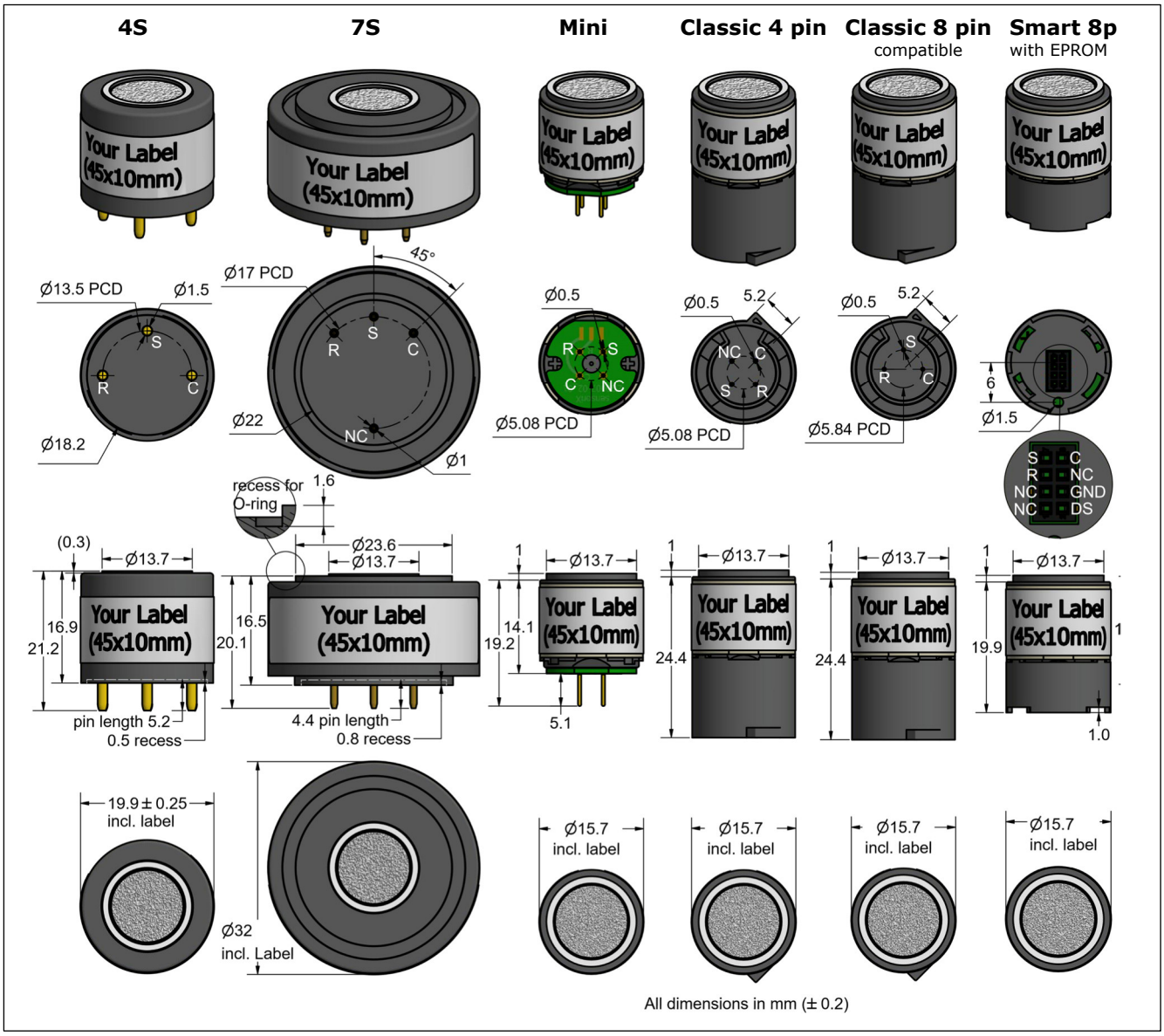
Product dimensions (Höhe Grafik 14.3 cm)



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.

Draft

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.