

CI2 50 low H2

Electrochemical Gas Sensor for Chlorine

3-electrode sensor for industrial safety & disinfection

Class leading stability | Highly selective | Fast response | Very low baseline

Performance Characteristics	
Measurement Range	0 - 50 ppm*
Sensitivity (negative)	450 ± 200 nA/ppm
Response Time (T ₉₀)	≤ 60 s at 2 min gas exposure
Baseline (in clean air)	< ± 20 nA
Baseline (in clean air)	< ± 0.04 ppm**
Linearity	< 5% of full scale
Repeatability	< 2%

* suited for 0 - 5 ppm, too

** 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	0 Ohm
Bias Voltage	0 V
Recommended Orientation	sensor front pointing downwards or sideways

Lifetime	
Long Term Output Drift	< 10% per 6 months
Expected Operating Life	> 24 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.

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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.

Available Formats	
Name	Drawing
Part Number Weight	
4S AN381400 ~4.6 g	
7S AN381700 ~6.9 g	
Mini AN381000 ~2.4 g	
Classic 4 pin AN381C00 ~3.1 g	
Classic 8 pin compatible AN381B00 ~3.1 g	
Smart 8p with EPROM AN381800 ~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.

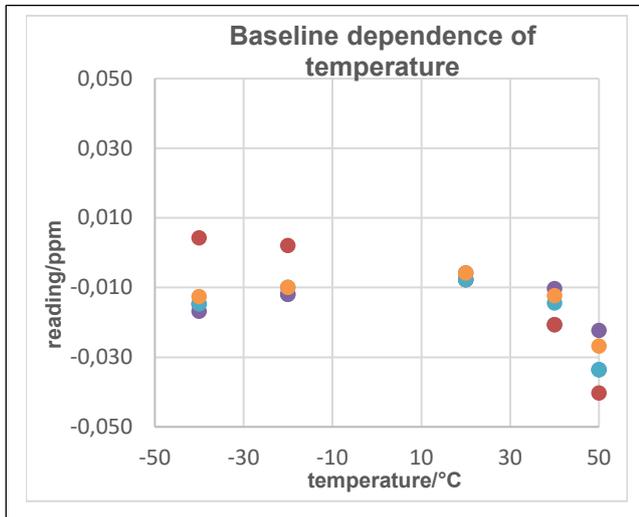
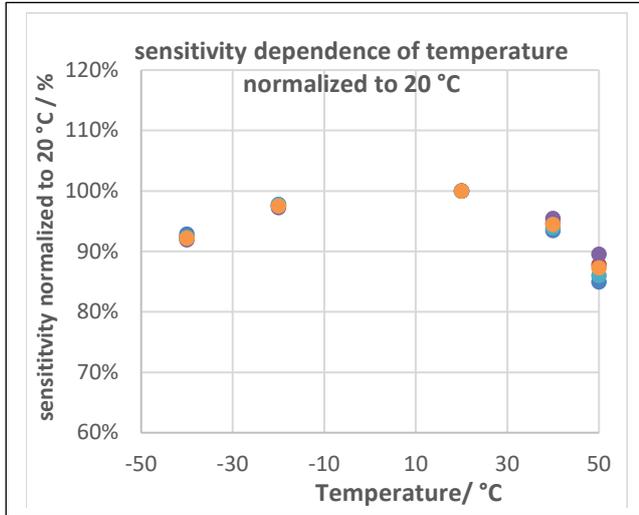
Intrinsic Safety Data	
Maximum o/c Voltage	< 1.3 V
Maximum s/c Current	< 1.0 A
Product Safety Datasheet (PSDS)	aqueous salt electrolyte



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Temperature performance



Temperature Coefficients		
Temperature	Sensitivity	Zero Current
-40 °C	92 %	-0.01 ppm
-20 °C	98 %	-0.01 ppm
20 °C	100 %	-0.01 ppm
40 °C	94 %	-0.02 ppm
50 °C	87 %	-0.03 ppm

Temperature data are taken from a typical batch.

Cross Sensitivity & Filter	
Gas concentration	Reading after 5 min
Bromine 20 ppm	20 ppm
Carbon Monoxide 100 ppm	0 ppm
Chlorine Dioxide 1 ppm	tbd
Hydrogen Sulfide 20 ppm	-7.1 ppm*
Hydrogen 3000 ppm	0 ppm
Hydrogen 50 %	-0.1 ppm**
Isopropanol 600 ppm	0 ppm
Nitrogen Dioxide 10 ppm	0.3 ppm
Sulphur Dioxide 10 ppm	0.1 ppm*
Ozone 0.25 ppm	tbd
Chemical Filter	None

Signals below baseline are stated as 0

* Continuous exposure at ppm level might blind the sensor.

** The sensor requires oxygen to measure Cl2. In an oxygen-free atmosphere, it becomes blind.

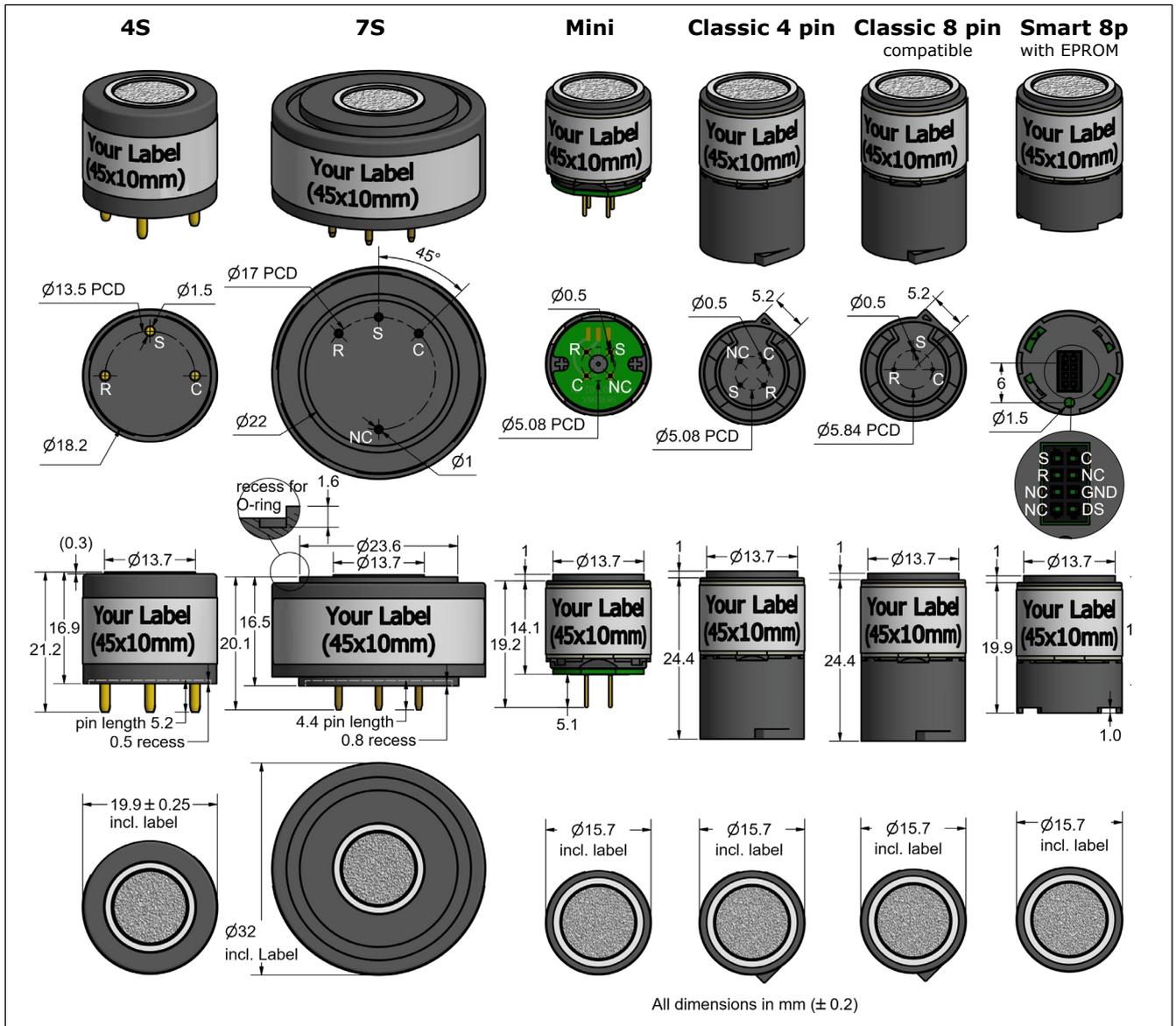
Whilst Sensorix cells are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table above is not exclusive and other gases not included in the table may still cause a sensor to react. The cross-sensitivity values quoted 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.

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

