

CI2 50

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 | -20°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.

| Available Formats | |
|---|---|
| Name | Drawing |
| Part Number Weight | |
| 4S AN071400 ~4.6 g |  |
| 7S AN071700 ~6.9 g |  |
| Mini AN071000 ~2.4 g |  |
| Classic 4 pin AN071C00 ~3.1 g |  |
| Classic 8 pin compatible AN071B00 ~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 |

SAFETY NOTE

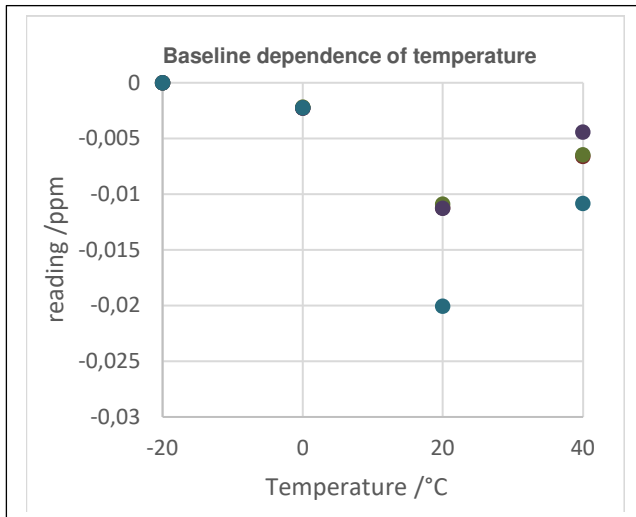
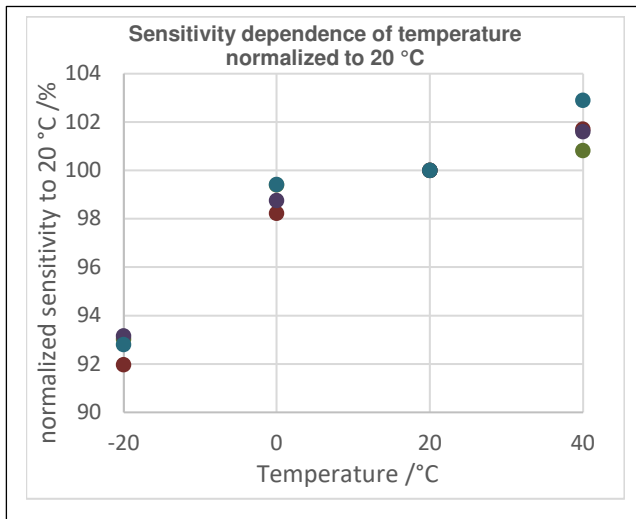
This sensor is designed to be used in safety critical applications. To ensure that the sensor and/or instrument in which it is used, are operating properly, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. 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.



CI2 50

Electrochemical Gas Sensor for Chlorine

Temperature performance



| Temperature Coefficients | | |
|--------------------------|-------------|--------------|
| Temperature | Sensitivity | Zero Current |
| -20 °C | 92.7 % | 0.000 ppm |
| 0 °C | 99.0 % | -0.002 ppm |
| 20 °C | 100.0 % | -0.013 ppm |
| 40 °C | 101.8 % | -0.007 ppm |

Temperature data are taken from a typical batch.

| Cross Sensitivity & Filter | |
|----------------------------|---------------------|
| Gas concentration | Reading after 5 min |
| Carbon Monoxide 100 ppm | 0 ppm |
| Chlorine Dioxide 1 ppm | 0.5 ppm |
| Hydrogen Sulfide 20 ppm | -2 ppm* |
| Hydrogen 3000 ppm | 0 ppm |
| Isopropanol 600 ppm | 0 ppm |
| Nitrogen Dioxide 10 ppm | <1 ppm |
| Sulphur Dioxide 10 ppm | 0 ppm |
| Ozone 0.25 ppm | 0.2 ppm |
| Chemical Filter | None |

Signals below baseline are stated as 0

tbc = to be confirmed

tbd = to be determined

* Continuous exposure at ppm level might blind the sensor.

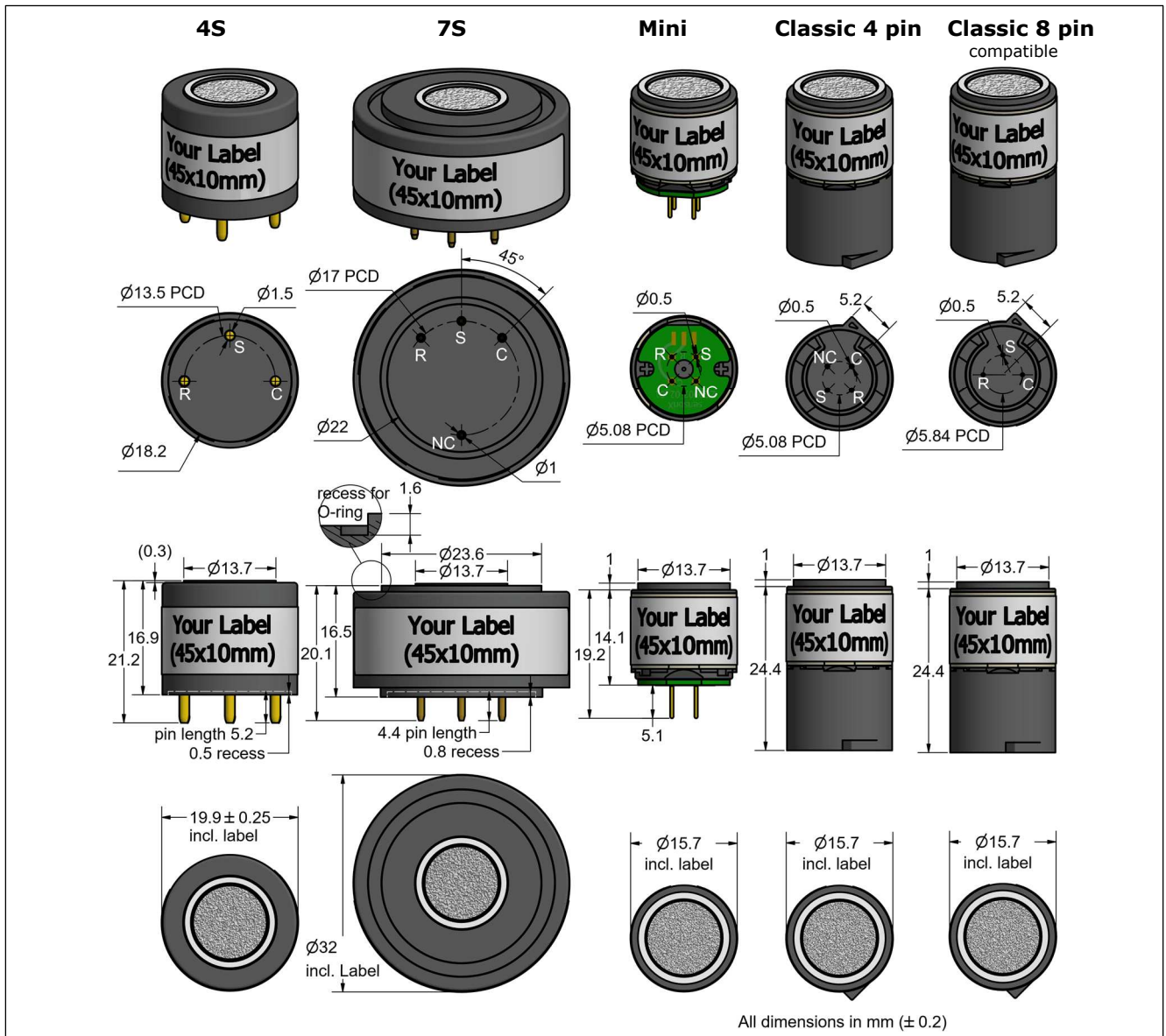
Whilst Sensorix cells are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table above is not exclusive and other gases not included in the table may still cause a sensor to react. The cross-sensitivity values quoted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



CI2 50

Electrochemical Gas Sensor for Chlorine

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.

