SGX SENSORTECH

An Amphenol Company

SGX-CL2-5

Chlorine sensor Datasheet

SGX Liquid Electrochemical Gas Sensors

These SGX Sensors use a revolutionary innovation in electrochemical sensing, which detects the output signals from the electrochemical reactions of different gases. Furthermore, it accurately measures gas concentration through the magnitude of the signal. These specialised sensors consist of three catalytic electrodes, liquid electrolyte and gas diffusion holes. Through the diffusion holes, the gas reaches the sensor's working electrode, where an electrochemical reaction takes place at the so-called 3-phase boundary. A current signal is generated at the output, which is linearly proportional to the gas concentration.

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Technical Specifications

SGX-CL2-5

Performance

Sensitivity	650 ± 200 nA/ppm
Measurement Range	0 – 5 ppm
Zero Current	± 10 nA
Maximum Overload	20 ppm
Response Time	T50 < 20s, T90 < 60s
Repeatability	< 2%
Lower Detectable Limit (LDL)	≤ 0.05 ppm
Linear Range	5 ppm
Resolution (16Bit ADC)	<0.01ppm

Environmental Details

Temperature Range	-20°C to +40°C
Pressure Range	800 to 1200 hPA
Operating Humidity Range	15-95% RH
Storage Temperature	0 to 20℃

Lifetime Details

Long-Term Drift	< 1 %/month
Expected Lifetime	24 months
Zero Drift in Clean Air	< 1 ppm
Storage conditions	0-20°C
Storage Life	6 months
Warranty	12 months

Operation

Operating Principle	Amperometric
Bias Voltage	0 mV
Recommended Load Resistor	220 Ω
Warm Up Time	< 60 s

Housing

Housing Material	PPO
Weight	< 6g

Features

- Small size
- Water based electrolyte
- High selectivity
- High sensitivity
- Excellent sensitivity at low temperatures
- Double sealed housing for advanced leakage protection

HANDLE WITH CARE

RoHS compliant 2002/95/EC

Key applications

- Gas measurement equipment
- Environmental air monitoring
- Leak detection
- Emissions
- TLV-monitoring
- Water Treatment, Plants, Swimming, Pools, Chemical Industry

Important Notes

- All performance is based on conditions at 20°C, 50% RH and 1 atm, flow rate>150qcm/min, using SGX recommended circuitry.
- Sensor performance is temperature dependant; please contact SGX for temperature performance other than 20°C.
- Do not solder to the connector pins as this may damage the sensor and thereby invalidate the warranty.
- Details on recommended connector pins can be found in the Frequently Asked Questions within the Gas Sensor section of the SGX website.

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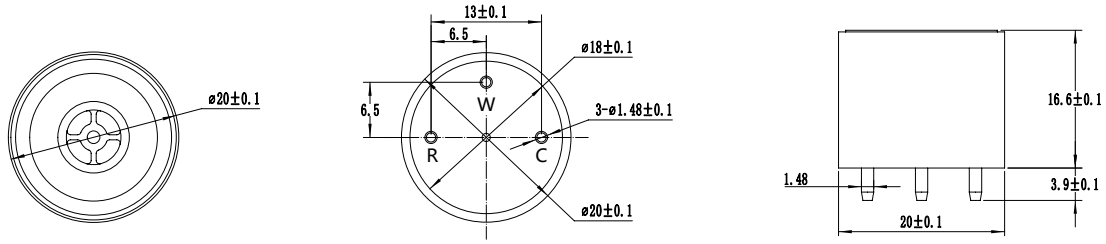
Dimensions

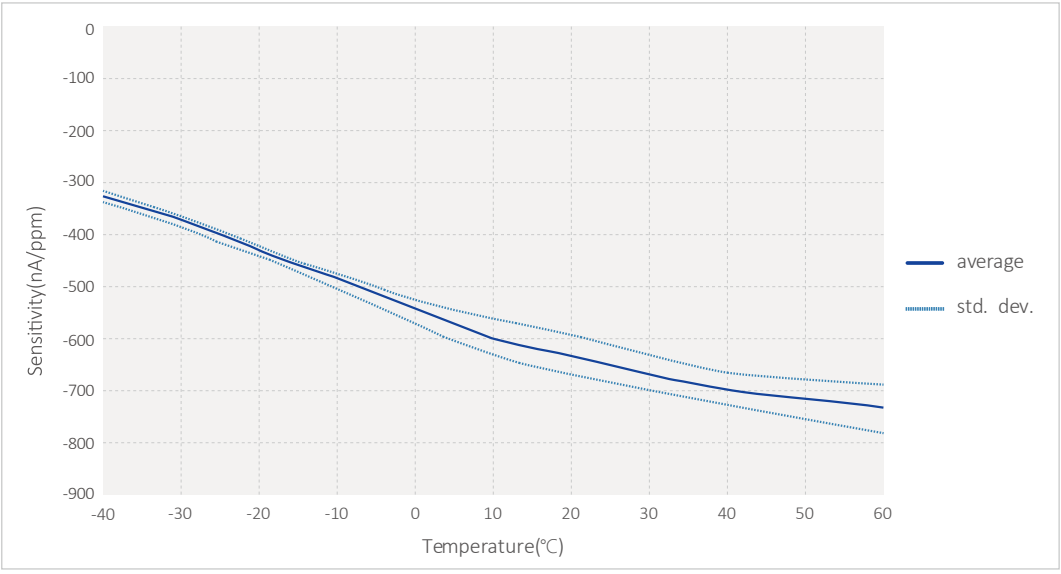


Cross Sensitivity

Gas	Formula	Test Concentration	Sensor Reading
Hydrogen Fluoride	HF	3ppm	0ppm
Carbon Monoxide	CO	100ppm	0ppm
Chlorine Dioxide	CLO_2	1ppm	0.5ppm
Hydrogen	H_2	1000ppm	0ppm
Hydrogen Sulphide	H_2S	10ppm	0ppm
Diborane	B_2H_6	0.6ppm	0.3ppm
Hydrogen Chloride	FCL	20ppm	0ppm
Ammonia	NH_3	100ppm	0ppm
Ozone	O_3	0.25ppm	0.05ppm

Note:
1) The above interference factors may vary due to different sensors and service life, please refer to the actual test results.
2) This table is not complete for all cross gases, other gas please contact with us.

Temperature Curve



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Disclaimer

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Warning

SGX Europe Sp. z o.o. sensors are designed to operate in a wide range of harsh environments and conditions. However it is important that exposure to high concentrations of solvent vapours I avoid, both during storage, fitting into instruments and operation. When using sensors on printed circuit boards (PCBs), degreasing agents should be used prior to the sensor being fitted. By the nature of the technology used, any electrochemical gas sensor offered by SGX Europe Sp. z o.o. can potentially fail to meet specification without warning. SGX Europe Sp. z o.o. makes every effort to ensure the reliability of our products of this type, where life safety is a performance requirement of the product, we recommend that all sensors and instruments using these sensors are checked for response to gas before use. SGX Europe Sp. z o.o 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 SGX Europe Sp. z o.o, 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.