



Hydrogen Fluoride 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.





An Amphenol Company

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Technical Specifications

Performance

Sensitivity	350 ± 100 nA/ppm
Measurement Range	0 – 10 ppm
Zero Current	± 100 nA
Maximum Overload	20 ppm
Response Time	T50 < 40s, T90 < 80s
Repeatability	< 2%
Lower Detectable Limit (LDL)	≤ 0.4 ppm
Linear Range	10 ppm
Resolution (16Bit ADC)	<0.1ppm

Environmental Details

Temperature Range		-20°C to +55°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	$\overline{)}$	24 months	
Zero Drift in Clean Air	$\overline{)}$	< 1 ppm	
Storage conditions	$\overline{)}$	0-20°C	
Storage Life	$\overline{)}$	6 months	
Warranty)	12 months	

Operation

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

Housing

Housing Material	PPO
Weight	< 6g



Features

- Small size
- Wide teperature range
- · Low cross sensitivity
- · High selectivity
- · High sensitivity
- Excellent sensitivity at low temperatures
- Double sealed housing for advanced leakage protection

Key applications

- Gas measurement equipment
- Environmental air monitoring
- Leak detection
- Power Transformer Failure
- Emissions
- TLV-monitoring

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.







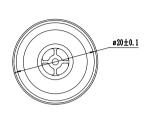


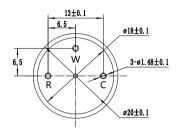


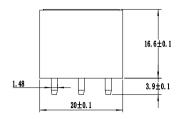
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Dimensions







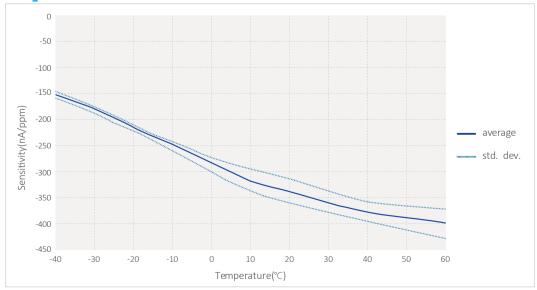
Cross Sensitivity

Gas	Formula	Test Concentration	Sensor Reading
Arsine	NH₃	0.5ppm	0ppm
Carbon Monoxide	СО	100ppm	0ррт
Chlorine	CL ₂	1ppm	0.7ppm
Hydrogen	H ₂	100ppm	0ppm
Hydrogen Sulphide	H₂S	50ppm	0ppm
Nitric Oxide	NO	20ppm	≈ 13ppm
Fluorine	F ₂	10ppm	≈ 0.7ppm
Silane	SiH ₄	10ppm	0ppm

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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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 is to be avoided, 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. SGX Europe Sp. z o.o. makes every effort to ensure the reliability of its products. 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.

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