SGX SENSORTECH
An Amphenol Company

SGX Europe Sp. z o.o.
Konduktorska 42 St.,
40-155 Katowice,
Poland

T: +48 (0) 32 438 4778

E: sales.is@sgxsensortech.com
www.sgxsensortech.com

SGX-NH3-100-EL

Ammonia Sensor

The SGX series Electrochemical sensors come in a standard 20mm diameter/4-series housing, use a liquid electrolyte, and contain 3 electrodes, the Working (or Sensing), Counter and Reference. The gas to be measured diffuses into the sensor via the membrane to the Working electrode where it is oxidized or reduced. An electric current is the result of this electrochemical reaction. The amount of current generated depends on the amount of gas (ppm) that is oxidized or reduced at the working electrode. The SGX Electrochemical sensors use low power, are highly sensitive, offer linear output vs the gas concentration and are available for a broad range of toxic gases.

EXTENDED LIFE

The Extended Life (-EL) Ammonia sensors from SGX, utilize a unique set of raw materials that do not participate in the Electrochemical reaction with Ammonia. As such, our Ammonia Extended Life sensors are designed to last for minimum 5 years, even in applications were there is a continuous Ammonia background like in refrigeration and animal farming applications. So independently of the amount and how long our sensors are exposed to Ammonia, the life of the sensor will exceed 5 years. Even in 24/7 applications.

PERFORMANCE

Nominal Range	0 - 100 ppm
Maximum Overload	200 ppm
Sensitivity (20°C)	0.135 ± 0.035 µA/ppm
Response Time (T90)	≤ 45 s
Zero Signal (20°C)	< ±0.4 µA
Baseline Shift (-40°C ~ 40°C)	< 3 ppm
Resolution	0.2 ppm
Linearity	Linear up to 100 ppm
Bias Voltage	0 mV

OPERATING CONDITIONS

Temperature Range	-40°C to +40°C
Pressure Range	1 ± 0.1 atm
Operating Humidity Range	15% to 90% RH non-condensing

LIFETIME

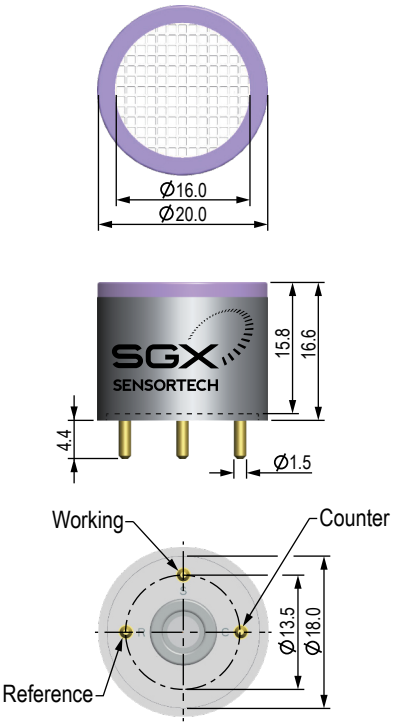
Long Time Output Drift	< 2% signal/month
Storage Temp	10°C ~ 30°C
Expected Operating Life	5 years in clean air
Storage Life	6 months in original packaging

INTRINSIC SAFETY DATA

Max. Current at 20ppm C2H4	< 0.2mA
Max. O/C Voltage	1.3 V
Max. S/C Current	< 1.0 A

PHYSICAL CHARACTERISTICS

Housing Material	ABS
Weight (Nominal)	5 g



OUTLINE

All dimensions are in mm
All tolerances are ±0.2mm

NOTE

1. All performance specifications are based upon the following environmental conditions: 20°C, 50% relative humidity, 101kPa (1 atm). Sensor performance varies under different environmental conditions. Please contact us if you need more details.
2. Cross Sensitivity Data is for information only. Calibration is recommended with target gas as the accuracy of calibration and measurement cannot be ensured.
3. The cross sensitivities are including but not limited to the gases stated in the table (see page 2). It may respond to other gases.
4. Calibration using the gases that have the cross sensitivities to this sensor is not recommended.
5. The device is designed to be RoHS compliant.
6. Poisoning - 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 vapors is avoided, both during storage, fitting into instrument and operation.
7. When using sensors on printed circuit boards (PCB's), degreasing agents should be used prior to the sensor being fitted.

SGX Europe Sp. z o.o.
Konduktorska 42 St.,
40-155 Katowice,
Poland

T: +48 (0) 32 438 4778

E: sales.is@sgxsensortech.com
www.sgxsensortech.com

INSTALLATION

Output signals from the sensor pins are different. Inappropriate use of the pins in product design will affect the sensor functionality. Exposure to high concentrations of solvent vapors should be avoided under any condition. Mechanical overstress may cause deformation or cracks of the plastic enclosure of the sensor. If the sensor is used in extreme environmental conditions, please contact us for more details.

CROSS SENSITIVITY

Gas	Test Concentration	Sensor Reading
Carbon Monoxide	100 ppm	4.5 ppm
Hydrogen Sulfide	25 ppm	57.3 ppm
Sulfur Dioxide	20 ppm	-5.0 ppm
Nitric Oxide	50 ppm	7.6 ppm
Nitrogen Dioxide	10 ppm	-7.6 ppm
Hydrogen	1,000 ppm	4.9 ppm
Ethylene Oxide	50 ppm	1.9 ppm
Chlorine	10 ppm	-11.5 ppm

TEMPERATURE DATA