

# SGX-C2H3CL-20

## Vinyl Chloride 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.

### PERFORMANCE

Nominal Range	0 - 20 ppm
Maximum Overload	50 ppm
Sensitivity (20°C)	0.5 ± 0.2 µA/ppm
Response Time (T90)	≤ 60 s
Zero Signal (20°C)	-0.2 µA ~ 2.5 µA
Baseline Shift (-20°C ~ 50°C)	< 10 ppm
Resolution	1 ppm
Linearity	Linear up to 20 ppm
Bias Voltage	+300 mV

### OPERATING CONDITIONS

Temperature Range	-20°C to +50°C
Pressure Range	1 ± 0.1 atm
Operating Humidity Range	15% to 90% RH non-condensing

### LIFETIME

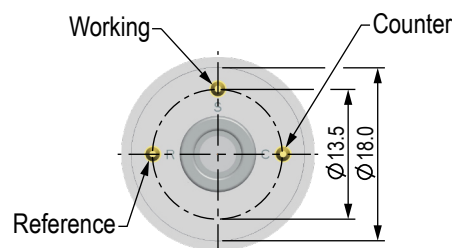
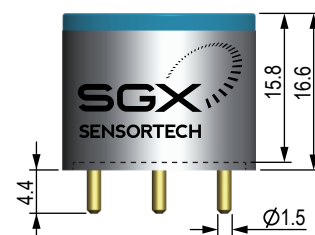
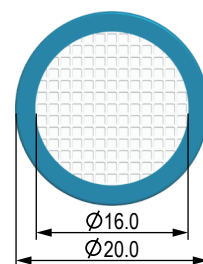
Long Time Output Drift	< 2% signal/month
Storage Temp	10°C ~ 30°C
Expected Operating Life	2 years in clean air
Storage Life	6 months in original packaging

### INTRINSIC SAFETY DATA

Max. Current at 50ppm C2H3CL	< 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)
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. The cross sensitivities may fluctuate between ± 30% and may differ from batch to batch or across sensor's lifetime.
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.

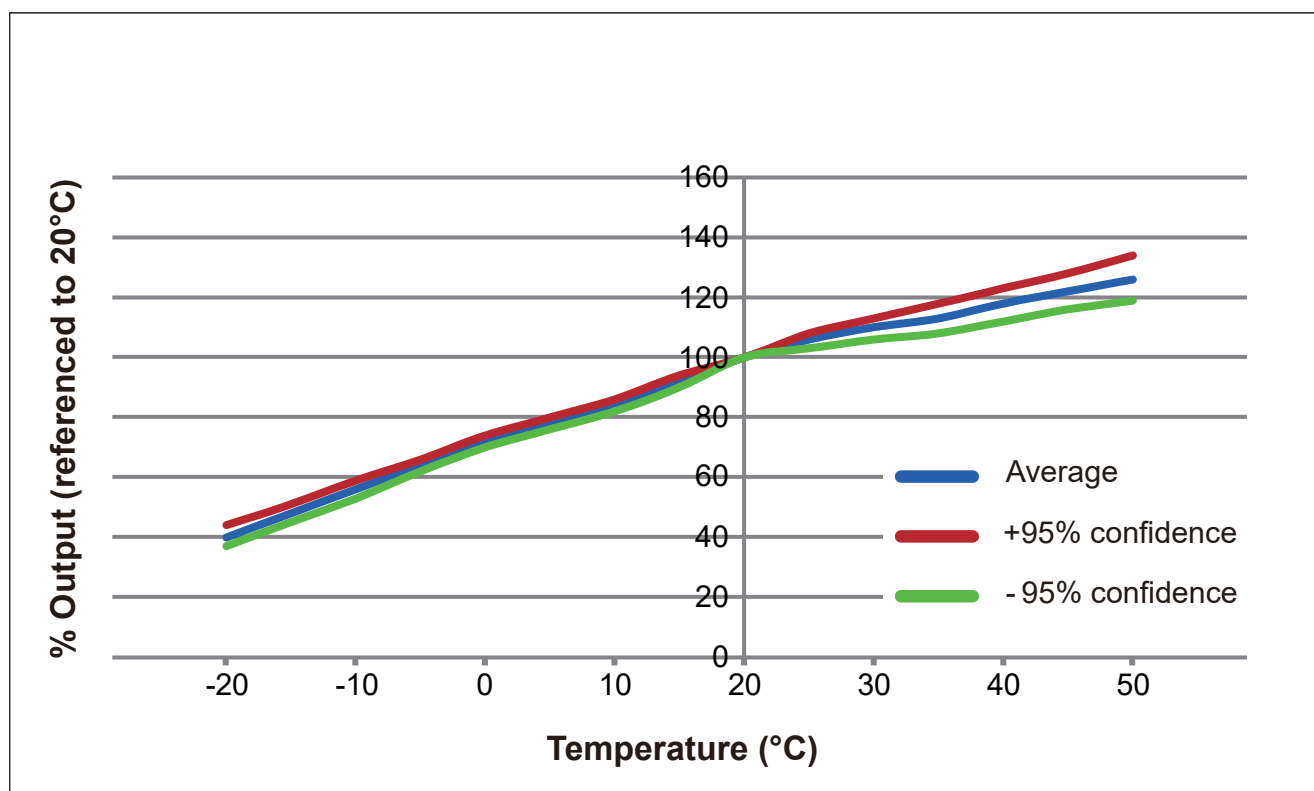
## CROSS SENSITIVITY

Gas	Test Concentration	Sensor Reading
Carbon Monoxide	25 ppm	40 ppm
Isobutylene	50 ppm	215 ppm
Ethylene	50 ppm	200 ppm
Acetylene	50 ppm	180 ppm
Ethanol	100 ppm	220 ppm

**Note:** The cross sensitivities include but not limited to the above gases. It may also respond to other gases. The data in the table above may vary from different batches of sensors and the changes of test environment. Calibration using the gases that have the cross sensitivities to this sensor is not recommended.

## TEMPERATURE DATA

### Temperature performance of SGX-C2H3CL-20



#### DISCLAIMER:

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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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