

SGX-40X Datasheet

Industrial Oxygen Sensor
(Application: Portable Gas Detectors)

PERFORMANCE

Range	0 – 25% O ₂
Zero Current (Offset)	< 0.6 %v/v O ₂
Output Signal in Air	70 to 130 μA
Linearity	Linear
Response Time (T ₉₀)	<15 s
Maximum Overload	30% O ₂
Long-term Output Drift	<5% per annum
Recommended Load Resistor	100 ohms
Warranty	2 years

OPERATING CONDITIONS

Temperature Range	-30°C to +50°C
Operating Humidity	5 – 95% RH (non-condensing)
Pressure range	800 to 1200 mbar
Recommended Storage Temperature	0°C to 20°C
Expected Operating Life	>2 years in air

INTRINSIC SAFETY DATA

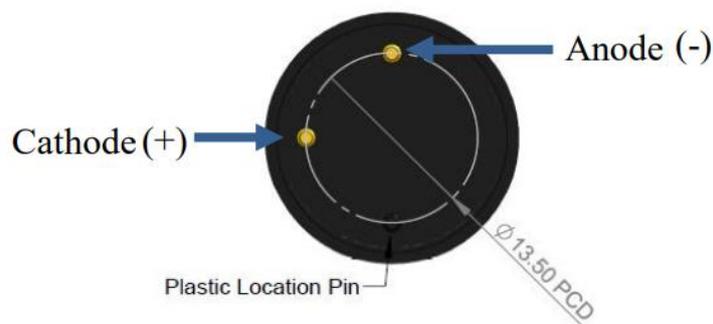
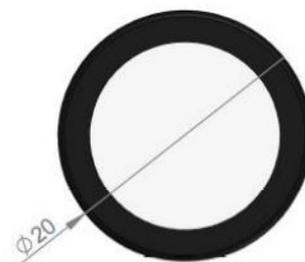
Maximum Current in Normal Operation (pure O ₂)	0.01 A
Maximum o/c Voltage (10 to 100% O ₂)	0.9 V
Maximum s/c Current (10 to 100% O ₂)	0.5 A

SENSOR OUTPUT

The output signal (in mA) is derived by measuring the voltage drop across a resistor placed across the sensor output pins. A value of 100 Ohms is the suggested value.

OUTLINE

All dimensions are in mm
All tolerances are ±0.15mm
Pin diameter = 1.50 mm



IMPORTANT NOTES

- All performance is based on conditions at 20°C, 50% RH and 1 atm, 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.

ACID GASES

Acid gases such as CO₂ and SO₂ will be absorbed by the electrolyte and tends to increase the flux of oxygen to the electrode. This gives an enhanced oxygen signal of approximately 0.3% of signal per 1% CO₂. The SGX-40X sensors are not suitable for continuous operation in concentrations of CO₂ above 25%.

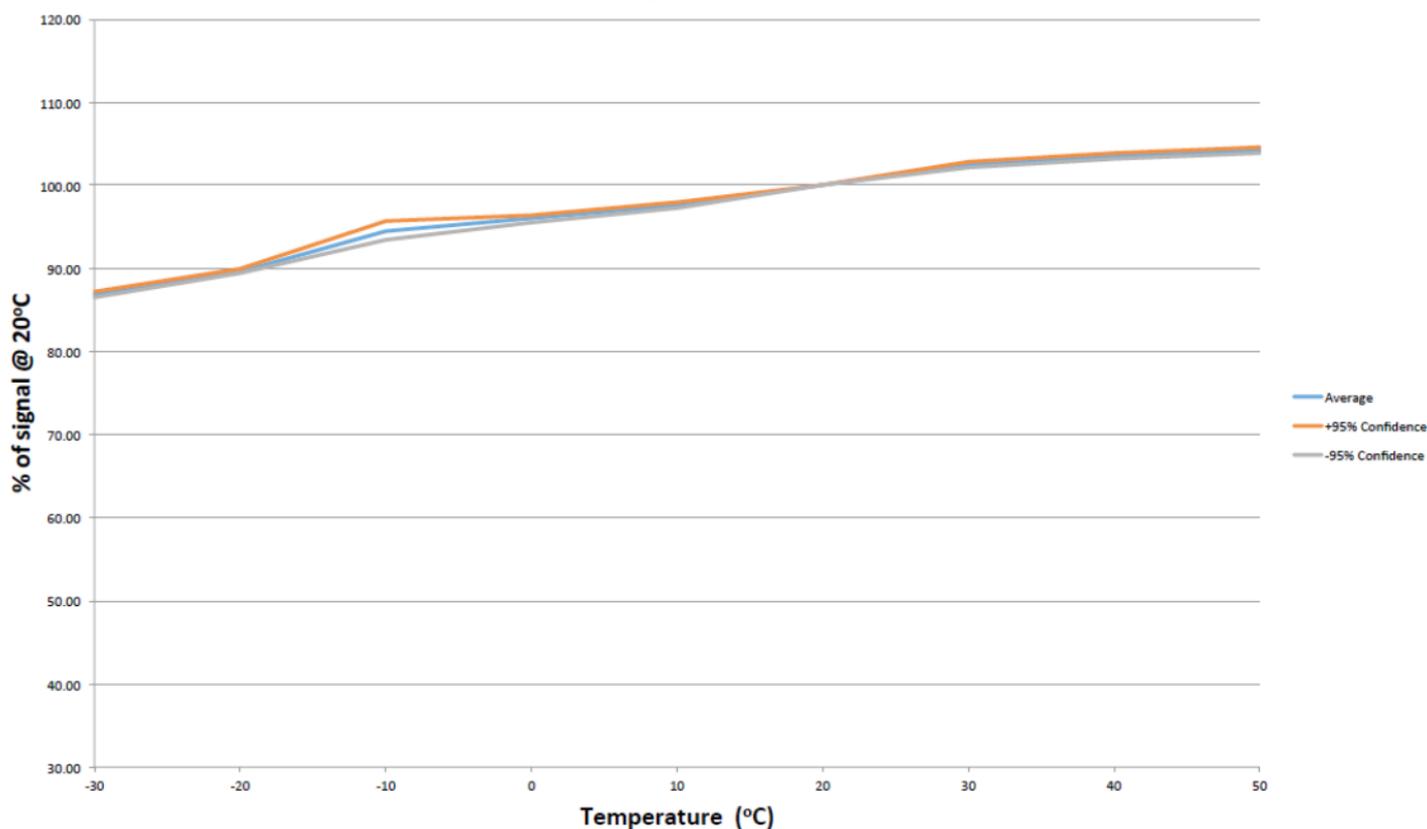
CROSS SENSITIVITY DATA

Toxic gases at TLV levels will have no cross-sensitivity effect on SGX oxygen sensors. At very high levels (i.e. percent levels), highly oxidising gases (e.g. ozone, chlorine) will interfere to the extent of their Oxygen equivalent, but most other commonly occurring gases will have no effect.

POISONING

SGX 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 avoided 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.

Output Temperature Coefficient Data



Warning:

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.