



## SGX-40X

### Industrial Oxygen Sensor

(Application : Portable Gas Detectors)

#### PERFORMANCE

Range	0 – 25% O <sub>2</sub>
Zero Current (Offset)	< 0.6 %v/v O <sub>2</sub>
Output Signal in Air	70 to 130 µA
Linearity	Linear
Response Time (T <sub>90</sub> )	<15 s
Maximum Overload	30% O <sub>2</sub>
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

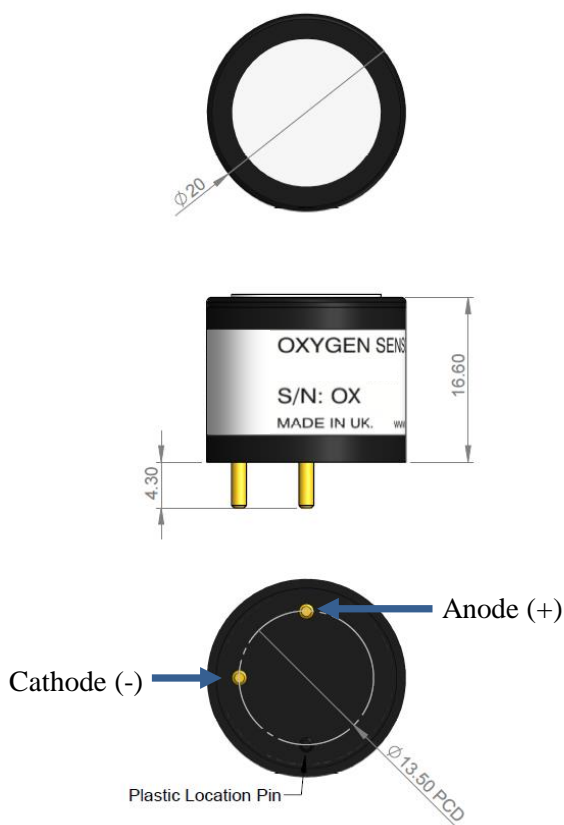
Maximum Current in Normal Operation (pure O <sub>2</sub> )	0.01 A
Maximum o/c Voltage (10 to 100% O <sub>2</sub> )	0.9 V
Maximum s/c Current (10 to 100% O <sub>2</sub> )	0.5 A

#### 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.

#### PRODUCT DIMENSIONS

All dimensions in mm  
All tolerances ±0.15 mm  
Pin Diameter = 1.50mm



#### 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.

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**ACID GASES**

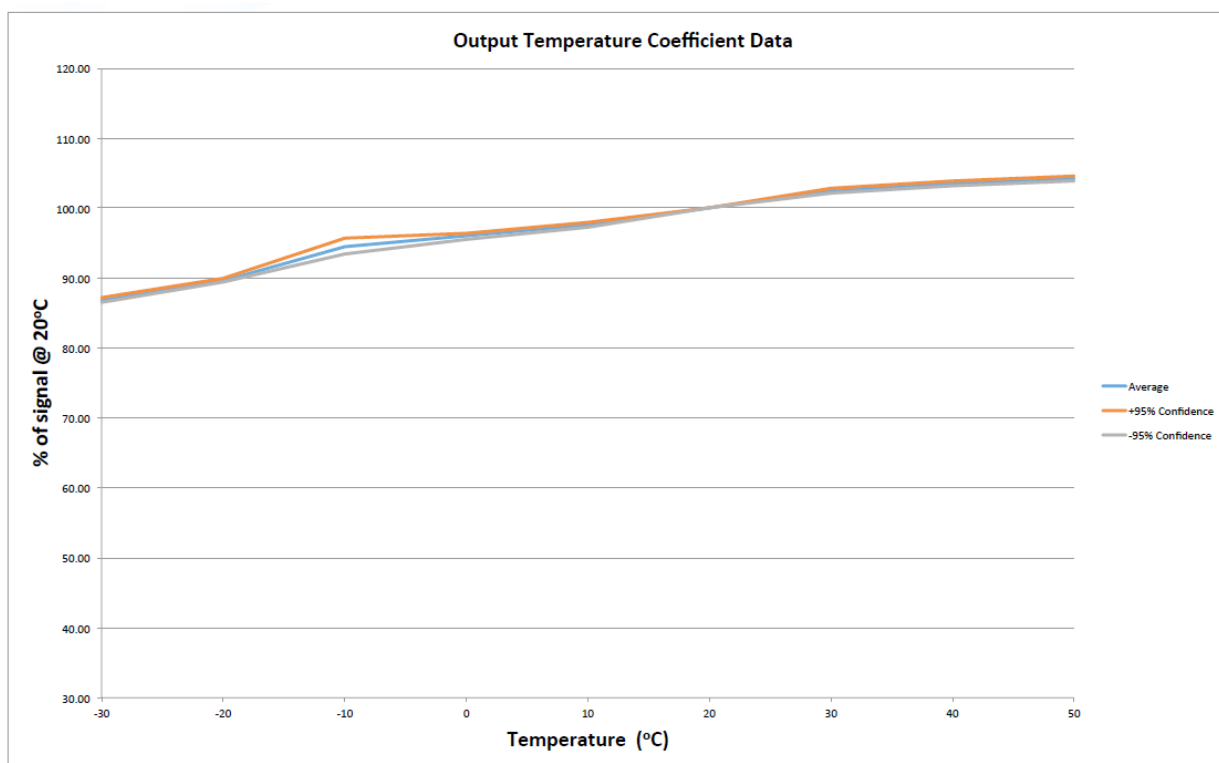
Acid gases such as CO<sub>2</sub> and SO<sub>2</sub> will be absorbed by the electrolyte and tends to increase the flux of oxygen to the electrode. This gives an enhanced oxygen signal of approximately 0.3% of signal per 1% CO<sub>2</sub>. The SGX-40X sensors are not suitable for continuous operation in concentrations of CO<sub>2</sub> above 25%.

**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.

**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.



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