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# SGX-7OX

## Industrial Oxygen Sensor

**(Application : Fixed Gas Detectors)**

## PERFORMANCE

| | |
|---|---|
| **Range** | 0 – 25% Oxygen |
| **Output Signal** | 170 to 230 µA |
| **Zero Current (offset)** | < 0.6 %Vol Oxygen |
| **Linearity** | Linear |
| **Response time ($T_{90}$)** | <15 s |
| **Maximum Overload** | 30% Oxygen |
| **Long-Term Output Drift** | <5% per annum |
| **Recommended Load Resistor** | 100 ohms |
| **Warranty** | 2 year |
| **Bias** | No Bias |

## OPERATING CONDITIONS

| | |
|---|---|
| **Temperature Range** | -30°C to +50°C |
| **Operating Humidity** | 5 – 95% RH (non-condensing) |
| **Pressure range** | 800 to 1200 mbar |
| **Operating Circuit** | See Application Note 2 |
| **Recommended Storage Temperature** | 0°C to 20°C |
| **Expected Operating Life** | > 24 Months in Air |

## INTRINSIC SAFETY DATA

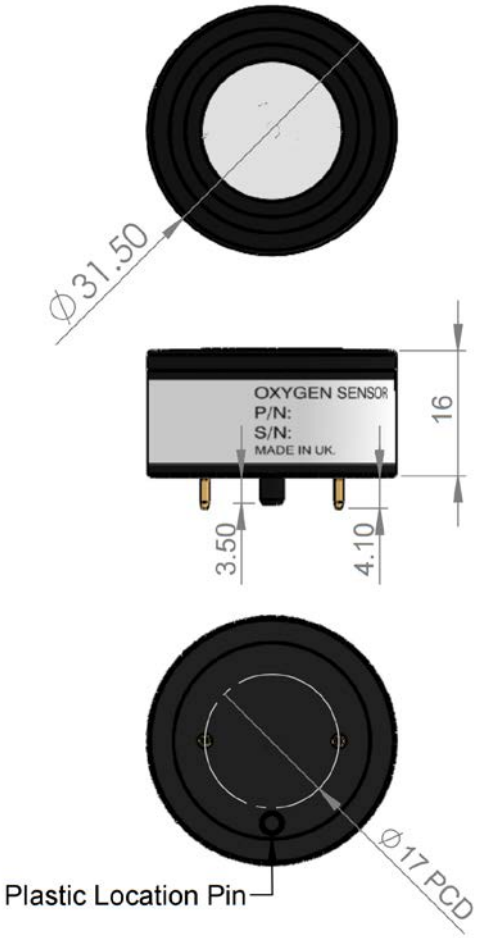
| | |
|---|---|
| **Maximum Current in Normal Operation** (Pure air) | 0.01 A |
| **Maximum o/c Voltage** (10 to 100% $O_2$) | 0.9 V |
| **Maximum s/c Current** (10 to 100% $O_2$) | 0.5 A |

## 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.

## PRODUCT DIMENSIONS

All dimensions in mm
All tolerances ±0.15 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.

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## ACID GASES

Acid gases such as $CO_2$ and $SO_2$ 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% $CO_2$. The SGX-7OX sensors are not suitable for continuous operation in concentrations of $CO_2$ 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.

## TEMPERATURE