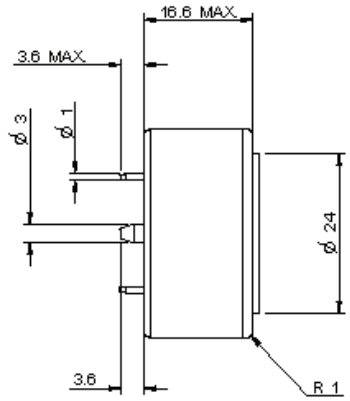
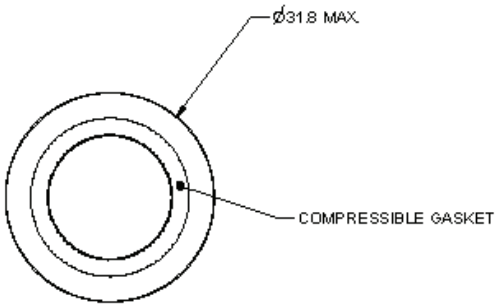
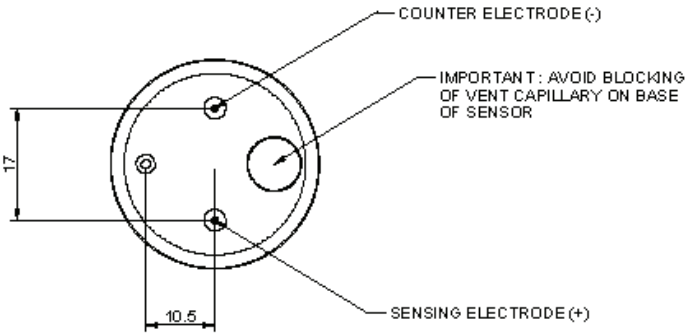
7OX-V CiTiceL®

Outline Dimensions







All tolerances ±0.15 mm unless otherwise stated.

IMPORTANT NOTE: Connection should be made via PCB sockets only. Soldering to the pins will render your warranty void.

Performance Characteristics

Nominal Range	0-25% Oxygen
Max Overload	30% Oxygen
Expected Operating Life	Two years in air
Output Signal	0.195 - 0.25 mA in air
T_{95} Response Time	≤15 seconds
Offset (3mins N_2)	<0.5% O_2
Temperature Range	-20°C to +50°C
Temperature Coefficient	0.2% signal/°C
Absolute Pressure Range	Atmospheric ± 10%
Differential Pressure Range	0 to 40 mBar max
Pressure Coefficient	<0.02% signal/mBar
Operating Humidity **intermittent** **continuous**	 0 to 99% RH non-condensing 15 to 99% RH non-condensing
Long Term Output Drift	<5% signal loss/year
Recommended Load Resistor	100 Ω

Physical Characteristics

Storage Life	Six months in CTL container
Recommended Storage Temperature	0-20°C
Warranty Period	24 months from date of despatch (This amounts to a variation of condition 6 of our standard terms and conditions which otherwise apply)

N.B. All performance data is based on conditions at 20°C, 50%RH, and 1013 mBar

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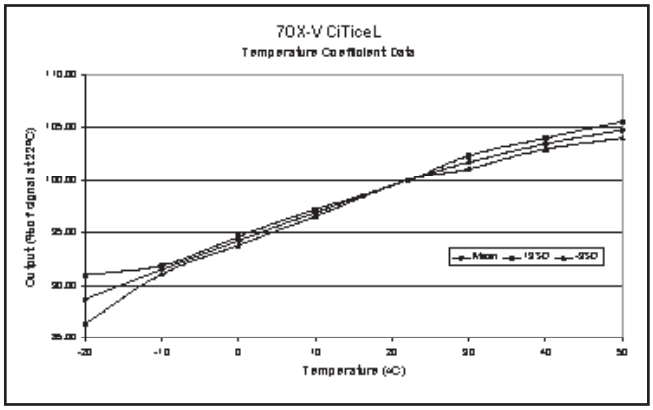
Temperature Behaviour

1) Gradual changes

The output of a 7OX-V CiTiceL varies slightly with gradual temperature changes. The behaviour of a batch of 7OX-V sensors is shown opposite. Output was measured at a range of temperatures and expressed as a percentage of the signal at 20°C. The graph shows the mean signal and three times standard deviation.



2) Sharp fluctuations

A transient response will occur with sharp fluctuations in temperature. For rapid increases in temperature there is a sharp drop in sensor output, and a sharp increase in output for rapid decreases. These responses are transient and should die away

Linearity

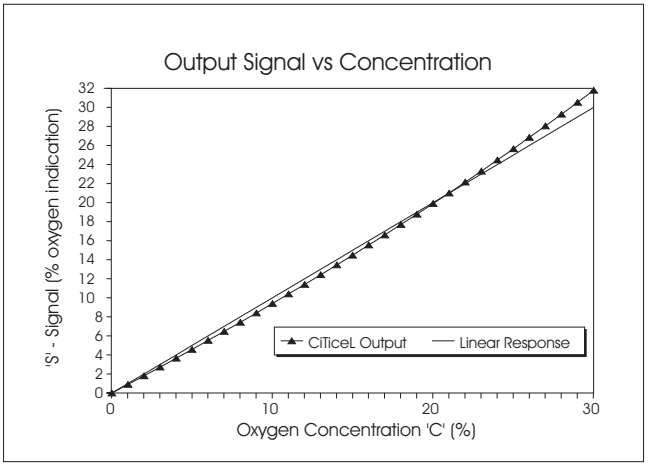
The output signal of an Oxygen CiTiceL follows the relationship:

$$S = K \log_e 1/(1-C)$$

where:

S = Output signal;
C = Fractional oxygen concentration;
K = a constant for the sensor.

For most applications the deviation from a linear response will be insignificant, and no compensation needed. For example, the graph below shows the output of a sensor calibrated in air (20.9% O_2). In this case the maximum error in the 0-25% range is »0.5% at around 10% O_2.



SAFETY NOTE

This sensor is designed to be used in safety critical applications. To ensure that the sensor and/or instrument in which it is used, are operating properly, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may jeopardize the safety of people and property.

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