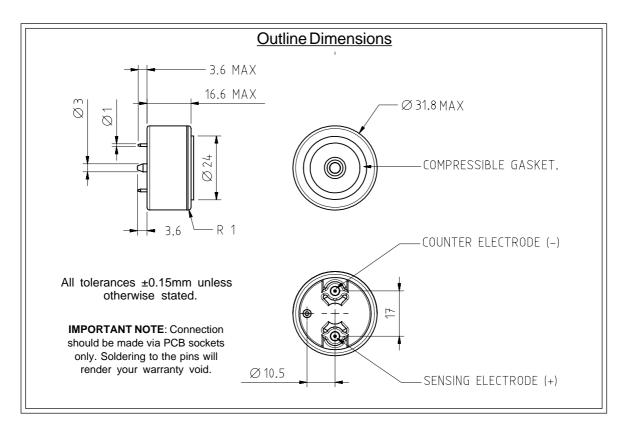


# 70X CiTiceL®



## **Performance Characteristics**

## **Physical Characteristics**

Nominal Range	0-25% Oxygen
Max Overload	30% Oxygen Re
Expected Operating Life	Two years in air
Output Signal	0.25 ± 0.03mA in air
T <sub>95</sub> Response Time	≤15 seconds
Temperature Range	-20°C to +50°C
Temperature Coefficient	0.2% signal/°C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	<0.02% signal/mBar
<b>Operating Humidity</b>	0 to 99% RH non-condensing
Long Term Output Drift	<5% signal loss/year
Recommended Load Resistor	100Ω

Six months in CTL container 0-20°C

ecommended Storage **Temperature** 

**Warranty Period** 

Storage Life |

24 months from date of despatch (This amounts to a variation of condition 6 of our standard terms and conditions which otherwise apply)

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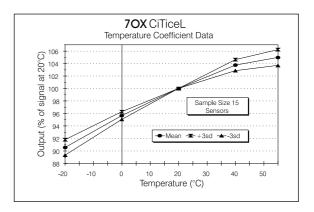
## **Temperature Behaviour**

#### 1) Gradual changes

The output of a 7OX CiTiceL varies slightly with gradual temperature changes. The behaviour of a batch of 7OX sensors is shown below. 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 in about 20 seconds.



## **Linearity**

The output signal of an Oxygen CiTiceL follows the relationship:

 $S = K \log_{0.00} 1/(1-C)$ 

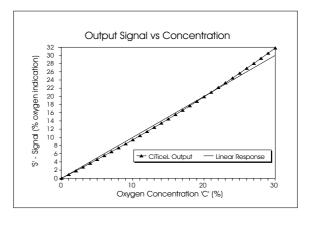
where:

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  $10\% \, O_3$ .



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