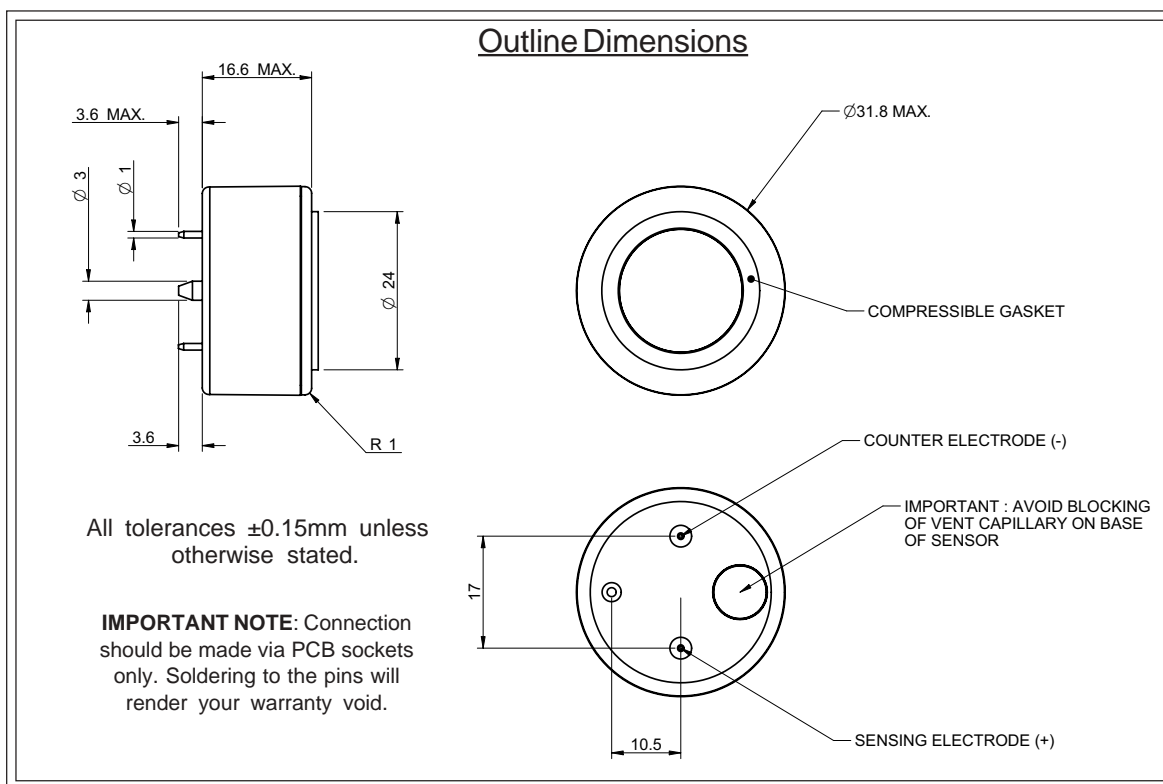


70X-V CiTiceL[®]



Performance Characteristics

Nominal Range	0-25% Oxygen
Max Overload	30% Oxygen
Expected Operating Life	Two years in air
Output Signal	0.195 - 0.25mA in air
T₉₅ Response Time	≤ 15 seconds
Offset (3mins N₂)	$< 0.5\%$ O ₂
Temperature Range	-20°C to +50°C
Temperature Coefficient	0.2% signal/°C
Absolute Pressure Range	Atmospheric $\pm 10\%$
Differential Pressure Range	0 to 40mBar max
Pressure Coefficient	$< 0.02\%$ signal/mBar
Operating Humidity intermittent	0 to 99% RH non-condensing
continuous	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 1013mBar



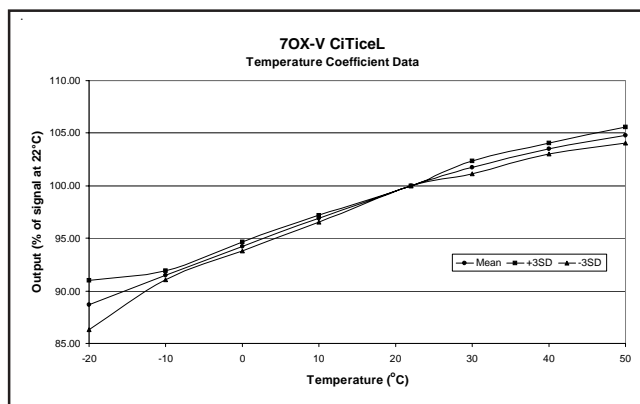
Temperature Behaviour

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 in about 20 seconds.



Linearity

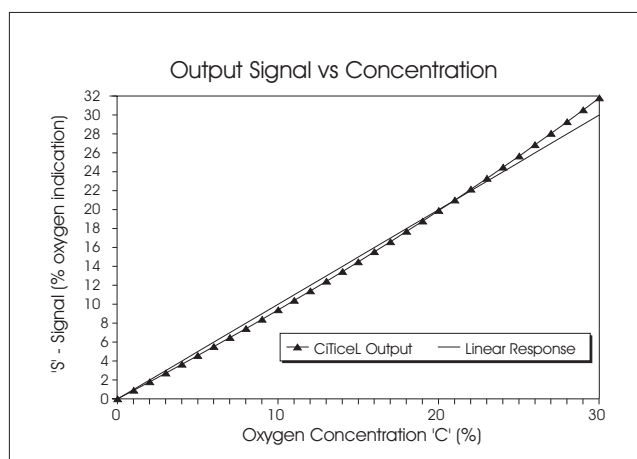
The output signal of an Oxygen CiTiceL follows the relationship:

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

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% O₂). In this case the maximum error in the 0-25% range is »0.5% at around 10% O₂.



Distributed by:

Shawcity Ltd
 91-92 Shrivenham Hundred Business Park
 Watchfield, Oxfordshire, SN6 8TY
 Tel: 01793 780622
 Email: sensororders@shawcity.co.uk
www.shawcity.co.uk

Every effort has been made to ensure the accuracy of this document at the time of printing. In accordance with the company's policy of continued product improvement City Technology Limited 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 programme 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 City Technology Limited, 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 time.