

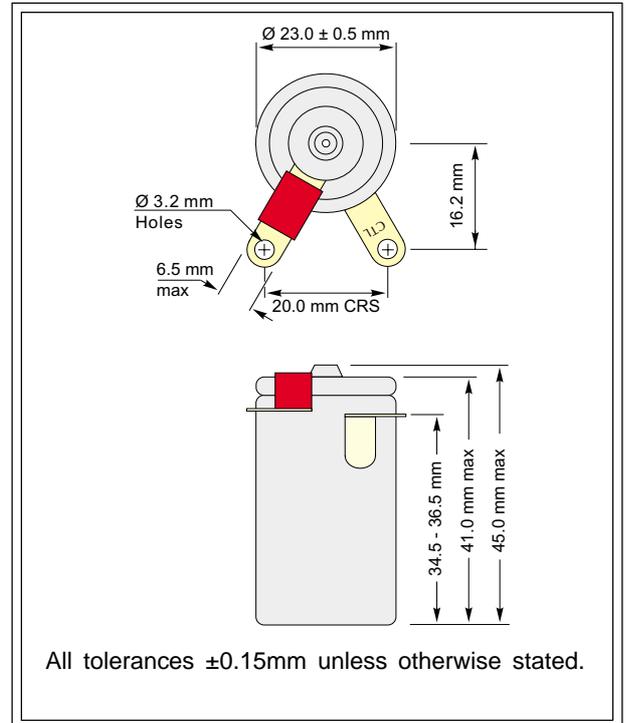


## C/S CiTiceL<sup>®</sup>

N.B. The specification is based on measurements made with cylinder gases using a flow rate of 400 mls min<sup>-1</sup>. Conditions at 20°C, 50%RH, and 1013mBar unless otherwise noted.

### Performance Characteristics

<b>Nominal Range</b>	0-25% Oxygen
<b>Max Overload</b>	30% Oxygen
<b>Expected Operating Life</b>	Nine months in Air
<b>Output Signal</b>	1.10 ± 0.17mA in Air
<b>T<sub>95</sub> Response Time</b>	<20 seconds
<b>Temperature Range</b>	-20°C to +50°C
<b>Temperature Coefficient</b>	0.2% signal/°C
<b>Pressure Range</b>	Atmospheric ± 10%
<b>Pressure Coefficient</b>	0.01% signal/mBar
<b>Operating Humidity</b>	0 to 99% RH non-condensing
<b>Long Term Output Drift</b>	<5% signal loss/year
<b>Maximum Load Resistor</b>	100Ω
<b>Storage Life</b>	Six months in CTL container
<b>Recommended Storage Temperature</b>	0-20°C
<b>Warranty Period</b>	9 months from date of despatch (This amounts to a variation of condition 6 of our standard terms and conditions which otherwise apply)



### Linearity

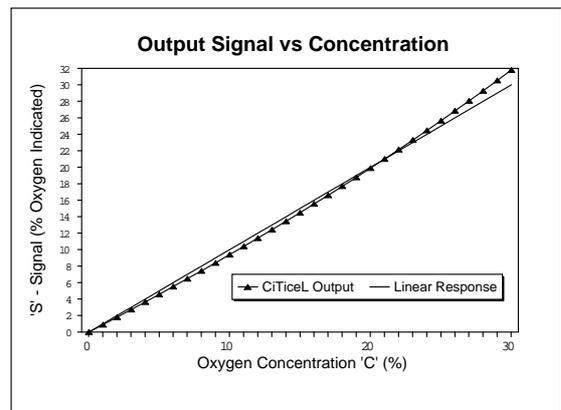
The output signal of an Oxygen CiTiceL follows the relationship:

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

where:

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

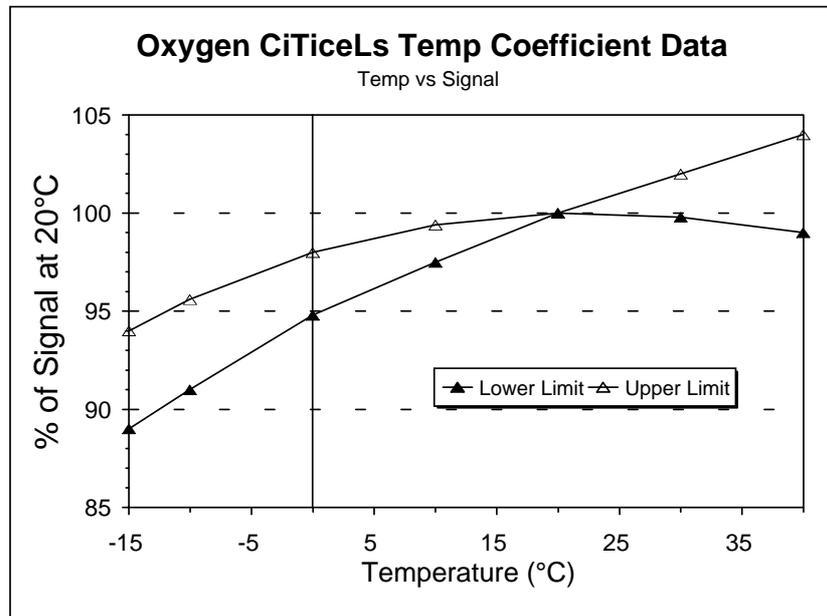
For most applications the deviation from a linear response will be insignificant, and no compensation needed. For example, the graph opposite shows the output of a sensor calibrated in air (20.9% O<sub>2</sub>). In this case the maximum error in the 0-25% range is ≈0.5% at around 10% O<sub>2</sub>.



## Temperature Behaviour

The output of an Oxygen CiTiceL varies slightly with gradual changes in temperature. The graph below shows the behaviour of a batch of 20 sensors. Output was measured at a range of temperatures and expressed as a percentage of the signal at 20°C. The graph shows the upper and lower limits observed.

For rapid fluctuations in temperature a transient response will occur. Sensor output will drop sharply for rapid increases and will rise sharply for rapid decreases. These responses are transient and should die away in about 20 seconds.



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Performance characteristics on this data sheet outline the performance of newly supplied sensors. Output signal can drift below the lower limit over time.