

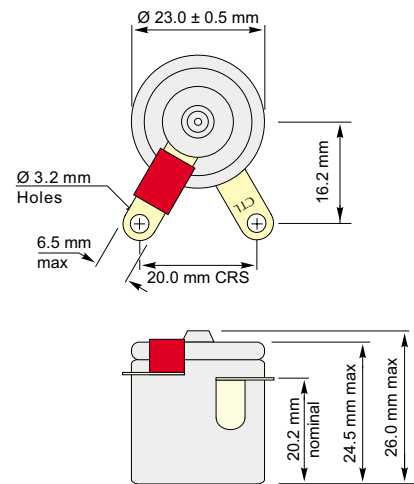


# C/2 CiTiceL<sup>®</sup>

## Performance Characteristics

<b>Nominal Range</b>	0-25% Oxygen
<b>Max Overload</b>	30% Oxygen
<b>Expected Operating Life</b>	18 months in Air
<b>Output Signal</b>	0.42 ± 0.06mA in air
<b>T<sub>95</sub> Response Time</b>	≤10 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>Recommended Load resistor</b>	47Ω
<b>Storage Life</b>	Six months in CTL container
<b>Recommended Storage Temperature</b>	0-20°C
<b>Warranty Period</b>	12 months from date of despatch

## Outline Dimensions



All tolerances ±0.15mm unless otherwise stated.

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

## Linearity

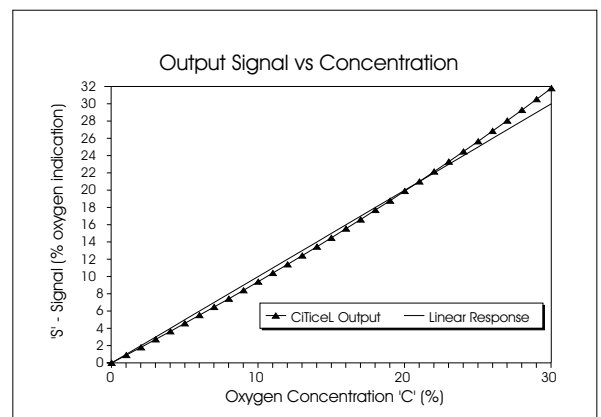
The output signal of an Oxygen CiTiceL follows the relationship:

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

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>.





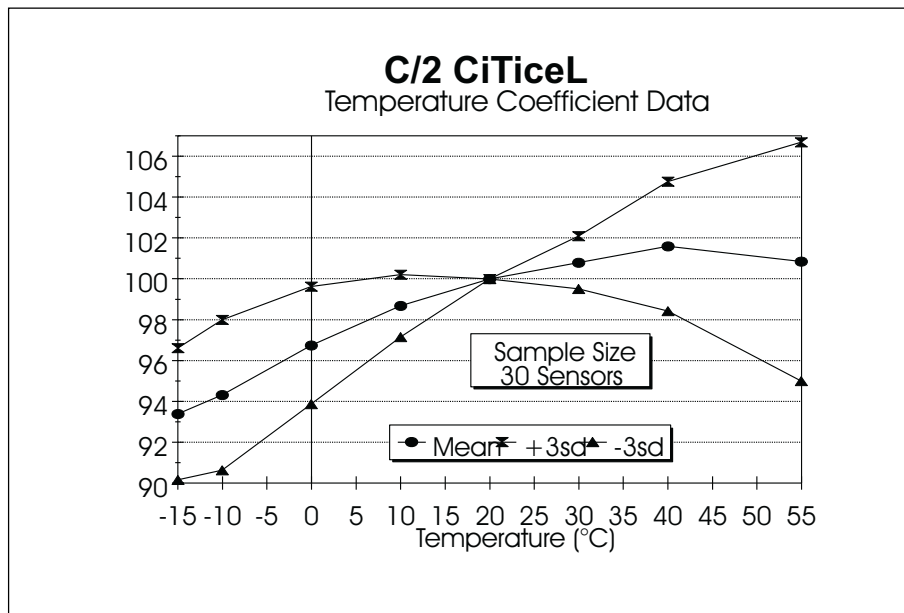
## Temperature Behaviour

### 1) Gradual changes

The output of an Oxygen CiTiceL varies slightly with gradual temperature changes. The behaviour of a batch of C/2 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.



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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.