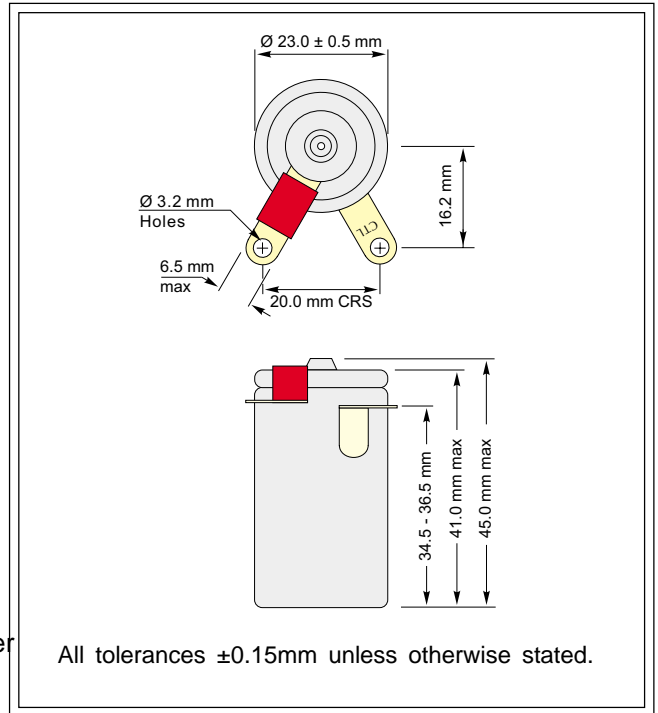


C/Y CLM; 9B`G9BGCF

Performance Characteristics

| | |
|--|----------------------------------|
| Nominal Range | 0-25% Oxygen |
| Max Overload | 30% Oxygen |
| Expected Operating Life | One year in air |
| Output Signal | 0.80 ± 0.12mA in air |
| T₉₅ Response Time | ≤10 seconds |
| Temperature Range | -20°C to +50°C |
| Temperature Coefficient | 0.2% signal/°C |
| Pressure Range | Atmospheric ± 10% |
| Pressure Coefficient | 0.015% signal/mBar |
| Operating Humidity | 0 to 99% RH non-condensing |
| Long Term Output Drift | <5% signal loss/year |
| Recommended Load resistor | 47Ω |
| Storage Life | Six months in original container |
| Recommended Storage Temperature | 0-20°C |
| Warranty Period | 12 months from date of despatch |



Linearity

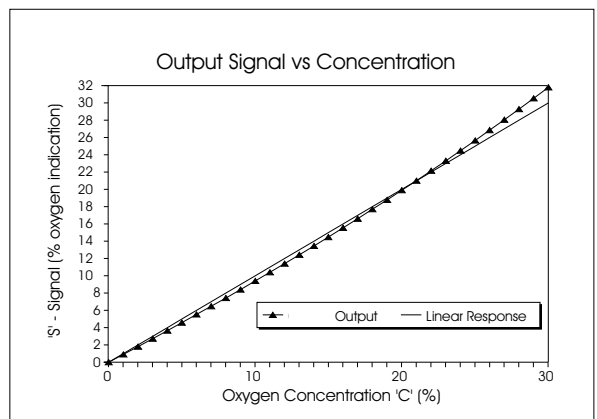
The output signal of an Oxygen C/Y follows the relationship:

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

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



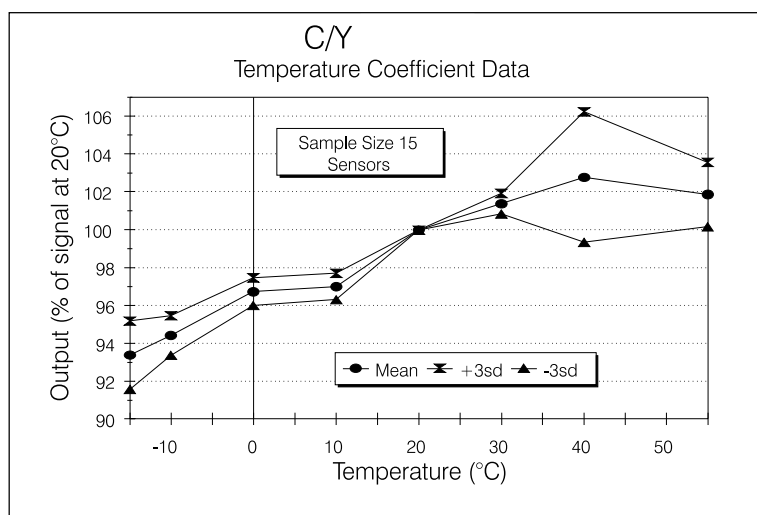
Temperature Behaviour

1) Gradual changes

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