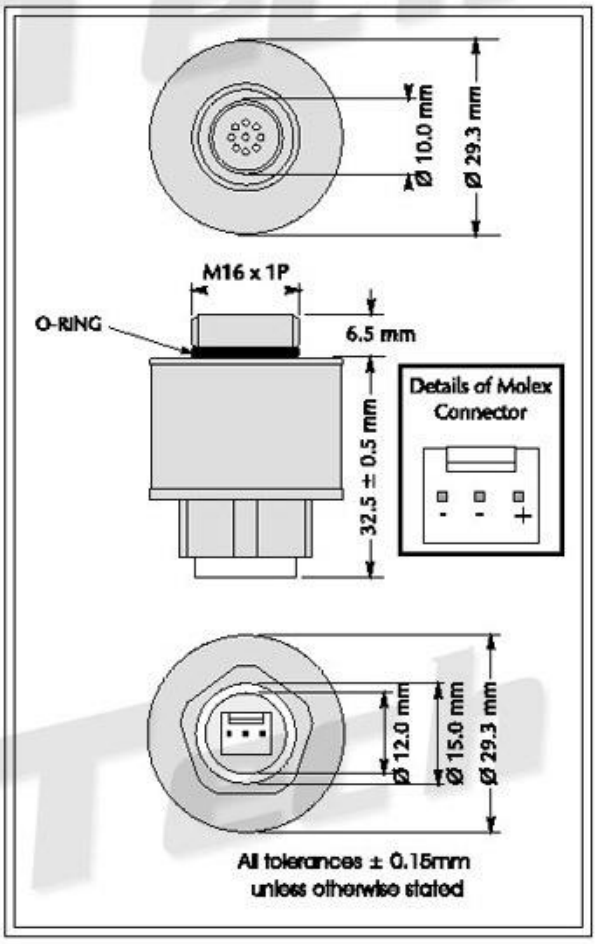
AO2 CiTiceL®

with Molex connector

Performance Characteristics

Output	9 - 13mV in Air
Range	0-100% O_2
Resolution	0.01% O_2
Expected Operating Life	360000%O_2hrs at 20°C 286000%O_2hrs at 40°C or 2 years in air at STP
T_{90} Response Time **$T_{99.5}$ Response Time***	<5 seconds <40 seconds
Signal in 100%O_2	100±1%
Linearity	Linear 0-100% O_2
Zero Offset	<20µV
Temperature Range	-20°C to +50°C
Temperature Compensation	<2% variation from 0°C to 40°C (see graph)
Differential Pressure Range	0-500mbar Max
Absolute Pressure Range	500-2000mbar
Relative Humidity Range	0 to 99% non-condensing
Long Term Output Drift	<10% signal loss/year
Recommended Load Resistor	Min 10KΩ
Warranty Period	12 month from date of despatch



* $T_{99.5}$ response is equivalent to a change in concentration from 20.9% O_2 to 0.1% O_2

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

NOTE

Molex header used in sensor is MOLEX 22-29-2031

Suggested mating parts are:

Molex 22-01-2035: 3-way housing

Molex 08-56-0110: crimp terminals

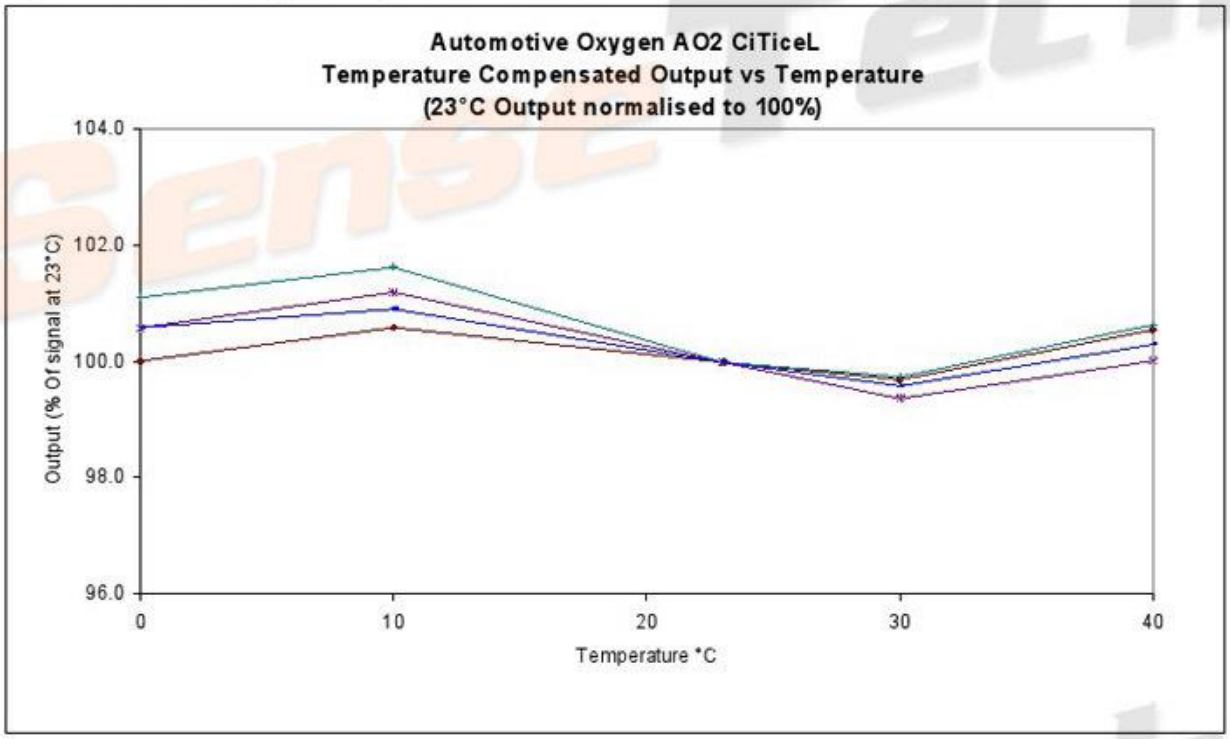
AO2 CiTiceL to be assembled into application 'finger tight' only

Oxygen CiTiceL® Specification

Temperature Behaviour

The output of an AO2 CiTiceL varies with gradual changes in temperature, but incorporates a thermistor to compensate for these changes. The thermistor gives the AO2 a very stable output over a wide temperature range.

The graph below shows the typical output behaviour of AO2 sensors over the range 0°C to +40°C.



Cross-sensitivity

The AO2 has been tested for cross-sensitivity to a number of gases likely to be present in an automotive exhaust sample. The gas concentrations used and the response of the AO2 have been summarised below.

Gas	AO2 Output ($\%O_2$ equivalent)	Gas	AO2 Output ($\%O_2$ equivalent)
16%CO_2 / Balance N_2	<0.01	6%CO / Balance N_2	<0.002
5% H_2 / Balance N_2	<0.001	3000ppm NO / Balance N_2	<0.002
2000ppm n-hexane / Balance N_2	<0.01		

These figures show that of the gases tested none show a sufficiently large cross-sensitivity to cause any inaccuracy in readings. In addition the baseline was unaffected by exposure to these gases.