Oxygen CiTiceL® Specification



AO2 CiTiceL®

with Molex connector

Performance Characteristics

Output | 9 - 13mV in Air

0-100% O₂ Range

Resolution 0.01% O₂

Expected Operating Life 360000%O₃hrs at 20°C

286000%O₂hrs at 40°C

or 2 years in air at STP

T₉₀ Response Time <5 seconds T_{00.5} Response Time*

<40 seconds

100±1% Signal in 100%O₂

> Linearity Linear 0-100% O₂

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 Min $10K\Omega$

Resistor

Warranty Period | 12 month from date of despatch

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

Ø 29.3 mm O-RING 6.5 mm Details of Molex шш Connector 0.5 +1 29.3 mm 15.0 mm All tolerances \pm 0.15mm unless otherwise stated

T_{99,5} response is equivalent to a change in concentration from 20.9% O₂ to 0.1% O₂

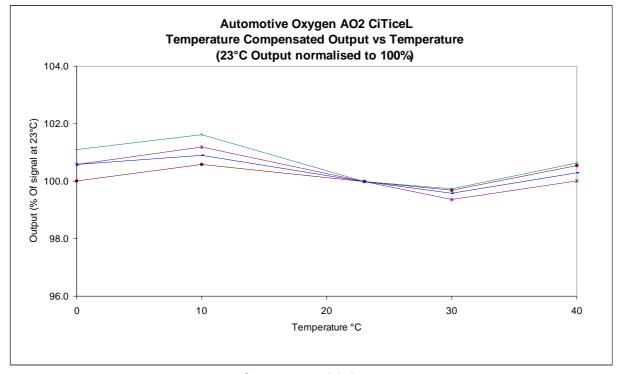
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Temperature Behaviour

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)	<u>Gas</u>	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.

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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.

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