Product Data Sheet

Product Datasheet

4OxLL Longlife Oxygen CiTiceL®
(for emissions applications)

Document Purpose

The purpose of this document is to present the performance specification of the 4OxLL longlife oxygen sensor.

This document should be used in conjunction with the 4OxLL / 5OxLL (Emissions) Characterisation Note, the 4OxLL / 5OxLL Operating Principles (OP19) and the Product Safety Datasheet (PSDS 5).

The data provided in this document are valid at 20°C, 50% RH and 1013 mBar for 3 months from the date of sensor manufacture. For guidance on sensor performance outside of these limits, please refer to the 4OxLL / 5OxLL (Emissions) Characterisation Note.

Output signal can drift below the lower limit over time. For guidance on the safe use of the sensor, please refer to the Operating Principles OP19.

4OxLL CiTiceL®

Oxygen (O_2) Gas Sensor for Emissions

Part Number: AA783-33K

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Key Features and Benefits

- **Long Life**
- **Improved field reliably**
- **Superior environmental performance**
- **Enhanced response time in extreme conditions**

Technical Specifications

MEASUREMENT

Technology	Electrochemical
Measurement Range	0-25% vol. O_2
Maximum Overload	30% vol. O_2
Output Signal*	80 - 130 µA in Air
T90 Response Time*	<15 Seconds
T97 Response Time*	<35 Seconds
Zero Current (Offset)* (after 3 minutes N_2)	<0.3% vol. O_2
Warm-Up Time	Refer to Characterisation Note
Linearity	S = K $\log_e$ 1/ (1-C)

ELECTRICAL

Bias Voltage	-600 ± 10 mV
Power Rating at 20.9%O_2	0.5 mW

MECHANICAL

Casing Material	ABS / NORYL
Weight	14 ± 0.2 g
Orientation Sensitivity	<0.2%vol. O_2 equivalent

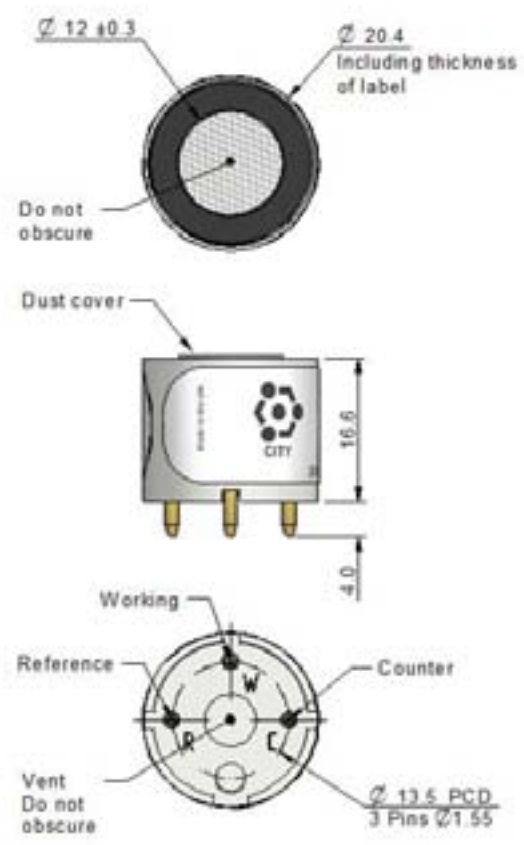
ENVIRONMENTAL

Operating Temperature Range	-40°C to 60°C
Recommended Storage Temp	0°C to 20°C in original packaging
Thermal Transient* (Temp. plunge +22°C to -20°C)	<23.5% vol. O_2
Operating Humidity Range	15%rH to 90%rH non-condensing
Operating Pressure Range	Atmospheric ± 20%
Pressure Coefficient*	<0.02% signal/mbar
Pressure Transient* (60 cm H_2O step change)	<150% signal change

LIFETIME

Long Term Output Drift*	<5% signal loss over operating life
Expected Operating Life	7 years in air

Product Dimensions



All tolerances ±0.15 mm unless otherwise stated.
DO NOT solder to pins.

IMPORTANT NOTE

When installing the sensor into instrumentation, the sensor vent hole should not be blocked. The instrument should also be adequately vented.

If the sensor vent hole is blocked or if the instrument is not adequately vented, sensor performance will be compromised.

For further details, refer to Operating Principles OP19.

*** Specifications are valid at 20°C, 50% RH and 1013 mBar, using City Technology recommended circuitry. Performance characteristics outline the performance of sensors supplied within the first 3 months. Output signal can drift below the lower limit over time.**

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Typical Applications
General purpose, portable or fixed life safety and emissions.

Poisons
CiTiceLs are designed for operation in a wide range of environments and harsh conditions. However it is important that exposure to high concentrations of solvent vapours is avoided, both during storage, fitting into instruments, and operation. When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted. Do not glue directly on or near the CiTiceL as the solvent will attack the plastic.

SAFETY NOTE
This sensor is designed to be used in safety critical applications. To ensure that the sensor and/or instrument in which it is used, are operating properly, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may jeopardize the safety of people and property.