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Product Data Sheet

Product Datasheet

4OXV Oxygen CiTiceL®

Document Purpose

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

This document should be used in conjunction with the 4OXV Characterisation Note, Operating Principles (OP02) and the Product Safety Datasheet (PSDS 4).

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 4OXV 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 OP02.

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公司名: 深圳市工采网络科技有限公司 地址: 广东省深圳市南山区高新南一道中国科技开发院3号楼16层
电话: + 86-755-83289069 传真: + 86-755-83289052 邮箱: sales@isweek.cn

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Key Features and Benefits

- False alarm immunity
- Enhanced response time in extreme applications
- Reliably meets stated life
- Superior environmental performance

Technical Specifications

MEASUREMENT

Technology	Electrochemical
Measurement Range	1-25% vol. O_2
Maximum Overload	30% vol. O_2
Output Signal*	0.10 ± 0.02 mA in Air
Response Time (T90)*	<15 Seconds
Zero Current (Offset)*	<0.6% vol. O_2
Linearity	Can be considered linear in many cases. See Operating Principles (OP-02) for further details.

ELECTRICAL

Recommended Load Resistor	100 Ω

MECHANICAL

Casing Material	ABS
Weight	<16 g
Orientation Sensitivity	<0.2% vol. O_2 equivalent

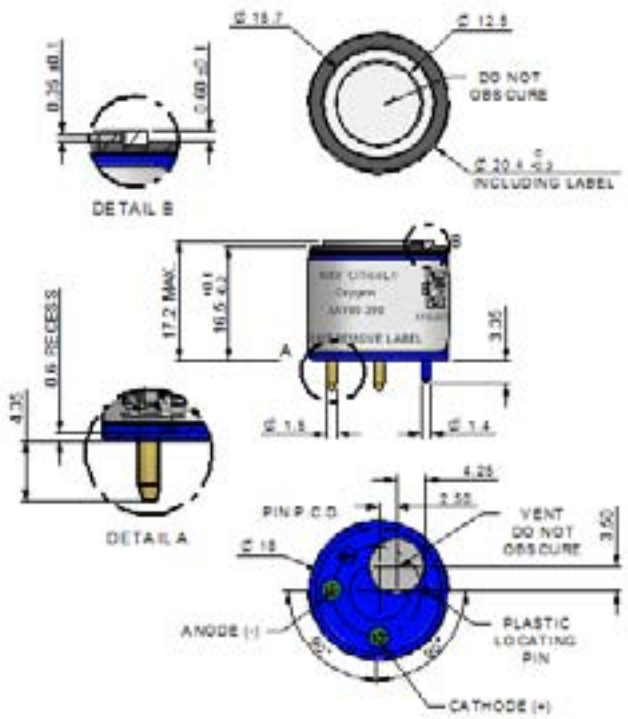
ENVIRONMENTAL

Operating Temperature Range	-20°C to +50°C (up to 3 months continuous across RH range)
Recommended Storage Temp	0°C to 20°C
Thermal Transient (Temp. plunge +22°C to -20°C)	<23.5% vol. O_2
Operating Pressure Range	Atmospheric ± 20%
Pressure Coefficient	<0.02% signal/mbar
Pressure Transient (60 cm H_2O step change)	<200% signal change
Relative Humidity Range	(at 0°C to 20°C)
Continuous	5 to 95%RH non-condensing
Short Term	0 to 99%RH non-condensing

LIFETIME

Long Term Output Drift*	<2% signal/month Typically <5% over operating life
Expected Operating Life	Minimum 24 months in air
Storage Life	6 months in original packaging 24 months from date of despatch

Product Dimensions



IMPORTANT NOTES

All tolerances ±0.15 mm unless otherwise stated. Do not remove label. Do not solder to pins.

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 OP02.

*** 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.

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 may cause crazing of the plastic.

Cross Sensitivity Data
Toxic gases at TLV levels will have no cross-sensitivity effect on Oxygen CiTiceLs. At very high levels (i.e. percent levels), highly oxidising gases (e.g. ozone, chlorine) will interfere to the extent of their oxygen equivalent, but most other commonly occurring gases will have no effect.

Acid Gases
IMPORTANT NOTE: Acid gases such as CO_2 and SO_2 will be absorbed by the electrolyte and tend to increase the flux of oxygen to the electrode. This gives an enhanced oxygen signal of approximately 0.3% of signal per 1% CO_2. Oxygen CiTiceLs are not suitable for continuous operation in concentrations of CO_2 above 25%.

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.

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