

Product Data Sheet

Product Datasheet

T7OXV Oxygen Transmitter

Document Purpose

The purpose of this document is to present the performance specification of the T7OXV transmitter.

This document should be used in conjunction with Operating Principles (OP05) 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 Operating Principles.

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.

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- Key Features & Benefits:**
- Robust 7-Series packaging
 - Industry standard 4-20 mA output

Technical Specifications

MEASUREMENT

| | |
|----------------------------------|--|
| Sensor Type Used | 70XV |
| Measurement Range | 0-25%vol. O ₂ |
| Filter | None |
| Output | 4-20 mA d.c. |
| Response Time (T ₉₅) | <15 Seconds at 20°C |
| Resolution | 0.1%vol O ₂ |
| Linearity | Can be considered linear in many cases. Refer to OP-05 for further details |

ELECTRICAL

| | |
|-----------------------|---------------------------------|
| Power Supply Required | 10 - 35 VDC |
| Output Impedance | 15 MΩ |
| Calibration | Via built-in span potentiometer |

MECHANICAL

| | |
|----------------------|--|
| Mounting | Via mounting nose supplied |
| Weight | Approx. 120 g including mounting accessory |
| Position Sensitivity | None |

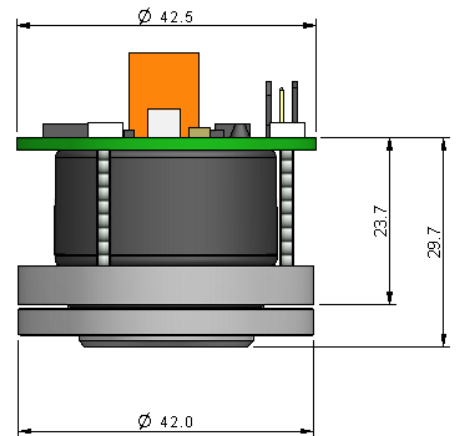
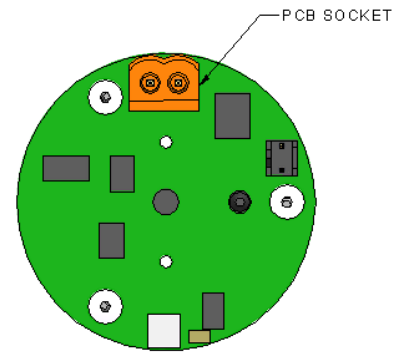
ENVIRONMENTAL

| | |
|-----------------------------|---------------------------|
| Operating Temperature Range | -20°C to +50°C |
| Recommended Storage Temp | 0°C to 20°C |
| Temperature Compensation | Refer to OP-05 |
| Operating Pressure Range | Atmospheric ± 10% |
| Pressure Coefficient | 0.02% signal/mbar |
| Operating Humidity Range | 0 - 99% RH non-condensing |

LIFETIME

| | |
|------------------------------|---------------------------|
| Long Term Sensitivity Drift* | <5% signal loss/year |
| Expected Operating Life | Two years in air |
| Storage Life | 6 months in CTL container |

Product Dimensions



All dimensions in mm
All tolerances ±0.15 mm unless otherwise stated

* 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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Poisoning

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 Table

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 and chlorine) will interfere to the extent of their oxygen equivalent, but most other commonly occurring gases will have no effect.

IMPORTANT NOTE : The cross sensitivity data shown below does not form part of the product specification and is supplied for guidance only. Values quoted are based on tests conducted on a small number of sensors and any batch may show significant variation. For the most accurate measurements, an instrument should be calibrated using the gas under investigation.

| | | |
|--------------|---------------------|---------|
| For example: | Methane 100% | 0 |
| | Hydrocarbons 100% | 0 |
| | Hydrogen 100% | < -2% |
| | Carbon monoxide 20% | < -0.5% |

Acid gases such as CO₂ and SO₂ will be slightly absorbed by the electrolyte and tend to increase the flux of oxygen to the electrode. This gives an enhanced oxygen signal of about 0.3% of signal per 1% CO₂. Capillary controlled CiTiceLs (such as the 70X) are not suitable for continuous operation in concentrations of CO₂ above 25%. In applications where high concentrations of CO₂ are present, the AO2 CiTiceL is recommended.

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.

Every effort has been made to ensure the accuracy of this document at the time of printing. In accordance with the company's policy of continued product improvement City Technology Limited reserves the right to make product changes without notice. The products are always subject to a programme of improvement and testing which may result in some changes in the characteristics quoted. As the products may be used by the client in circumstances beyond the knowledge and control of City Technology Limited, we cannot give any warranty as to the relevance of these particulars to an application. It is the clients' responsibility to carry out the necessary tests to determine the usefulness of the products and to ensure their safety of operation in a particular application.