

# Product Data Sheet

## Product Datasheet

### MOX20 Oxygen Sensor

#### Document Purpose

The purpose of this document is to present the performance specification of the MOX20 oxygen gas sensor.

This document should be used in conjunction with the Operating Principles (OP04) 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.

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 (OP04).

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## Key Features & Benefits:

- Fast response for breath analysis
- Internal temperature compensation
- Linear output from 0% to 100% O<sub>2</sub>

## Technical Specifications

### MEASUREMENT

<b>Operating Principle</b>	Partial Pressure Electrochemical
<b>Measurement Range</b>	0-1500 mBar O <sub>2</sub>
<b>Output*</b>	0.80 - 1.25 V in 210 mBar O <sub>2</sub>
<b>Response Time (T<sub>10-90</sub>)*</b> (N <sub>2</sub> to 21% O <sub>2</sub> )	< 750 ms at 0.5 L/min (T90 flow dependant)
<b>Resolution</b>	1 mBar O <sub>2</sub>
<b>Linearity</b>	Linear 0-100% O <sub>2</sub> <small>(see note 1)</small>

### ELECTRICAL

<b>Power Supply</b>	5 to 12 VDC
<b>Connector</b>	3 Pin Molex Header: (MOLEX 22-29-2031)
<b>Recommended Mating Part</b>	Molex Housing: (MOLEX 22-01-2035) Molex Crimp Terminals: (MOLEX 08-45-0110)

### MECHANICAL

<b>Housing Material</b>	White ABS
<b>Orientation</b>	Any

### ENVIRONMENTAL

<b>Typical Applications</b>	Breath Analysis
<b>Operating Temperature Range</b>	0°C to +50°C
<b>Temperature Compensation</b>	< 4% variation from 0 to 40°C
<b>Operating Pressure Range</b>	0.5 - 2.0 Bar
<b>Operating Humidity Range</b>	0 - 99% RH non-condensing

### LIFETIME

<b>Long Term Output Drift (100% O<sub>2</sub>)</b>	Typically < 10% signal loss/year
<b>Recommended Storage Temp</b>	0 to +20°C
<b>Expected Operating Life</b>	276,000% O <sub>2</sub> hours

**Note 1:** The regression coefficient of the best fit line should be better than 0.9995 when measured through four data points from testing with 100% N<sub>2</sub>, 21% O<sub>2</sub>, 60% O<sub>2</sub> and 100% O<sub>2</sub>.

### IMPORTANT NOTE:

Connection should be made via recommended mating parts only. Soldering to the sensor will damage it and invalidate the warranty.

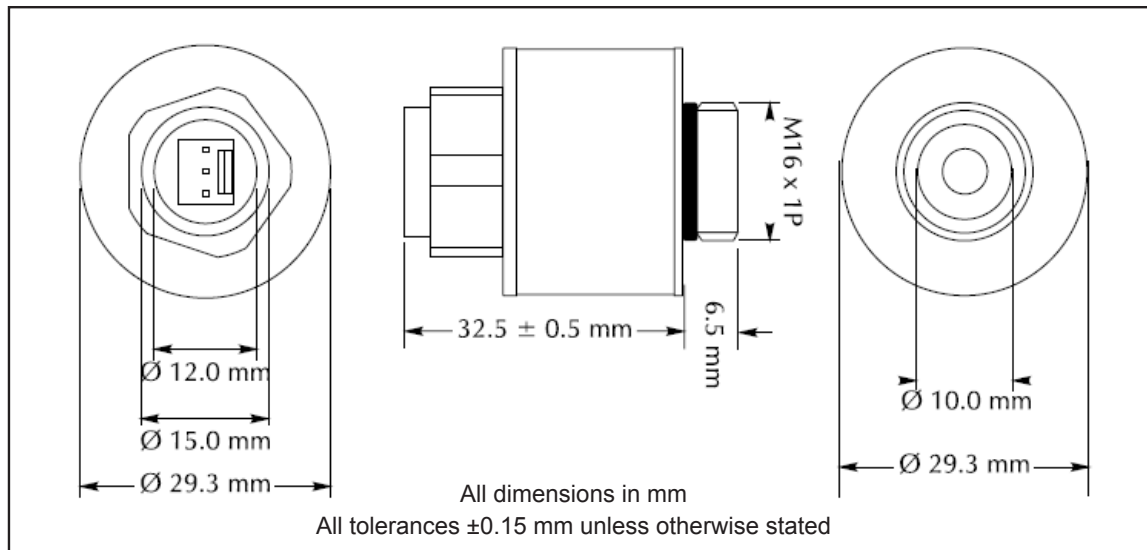
For further information on the external load resistance and connection to the recommended mating part, please see Operating Principle OP-04 or contact City Technology.

All performance data is based on measurements made with cylinder gases using a flow rate of 500 ml/min. Conditions at 20°C, 50% RH and 1013 mBar. For sensor performance data under other conditions, contact City Technology.

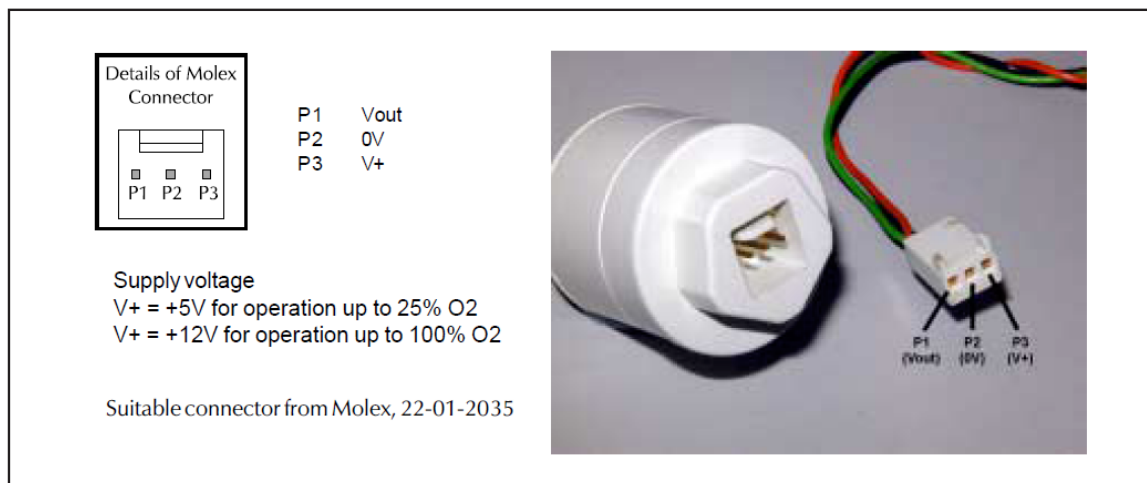
**Performance characteristics outline the performance of sensors supplied within the first 3 months. Output signal can drift below the lower limit over time.**

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## Product Dimensions



## Electrical Connections



### 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.