



**Key Features and Benefits:**

Vent hole for Glitch Free Operation

Robust, industry standard 4-Series packaging

**Technical Specifications**

**MEASUREMENT**

<b>Technology</b>	2-electrode electrochemical
<b>Measurement Range</b>	0-25% vol. O <sub>2</sub>
<b>Maximum Overload</b>	30% vol. O <sub>2</sub>
<b>Output Signal</b>	0.10 ± 0.02 mA in Air
<b>Response Time (T90)</b>	<10 Seconds
<b>Baseline Offset (clean air)</b>	<0.3% vol. O <sub>2</sub>
<b>Maximum Zero Shift (+20°C to +40°C)</b>	< ±5%
<b>Linearity</b>	Can be considered linear in many cases. See Operating Principles for further information

**ELECTRICAL**

<b>Recommended Load Resistor</b>	100 Ω
<b>Resolution</b>	Dependant on electronics

**MECHANICAL**

<b>Housing Material</b>	ABS
<b>Weight</b>	15 g (approx)
<b>Orientation Sensitivity</b>	<0.1% vol. O <sub>2</sub> equivalent

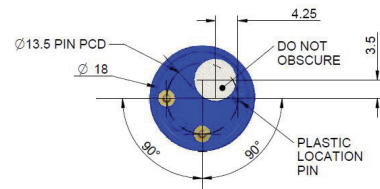
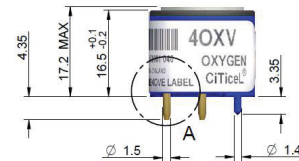
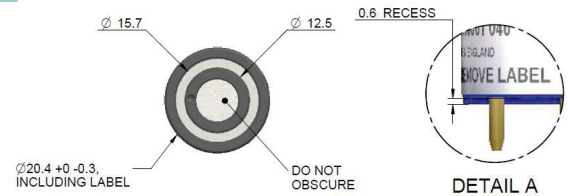
**ENVIRONMENTAL**

<b>Operating Temperature Range</b>	-20°C to +50°C
<b>Temperature Coefficient</b>	0.2% signal / °C
<b>Thermal Transient (Temp plunge +22°C to -20°C)</b>	<23.5% vol. O <sub>2</sub>
<b>Operating Pressure Range</b>	1 atm ± 10%
<b>Pressure Coefficient</b>	<0.02% signal/mbar
<b>Pressure Transient (60 cm H<sub>2</sub>O step change)</b>	<200% signal change
<b>Operating Humidity Range:</b>	
Continuous	5 to 95%RH non-condensing
Intermittent	0 to 99%RH non-condensing

**LIFETIME**

<b>Long Term Output Drift</b>	< 5% signal / year
<b>Recommended Storage Temp</b>	0 - 20°C
<b>Expected Operating Life</b>	Minimum 25 months in air
<b>Storage Life</b>	6 months in sealed container
<b>Warranty Period</b>	12 months from date of despatch

**Product Dimensions**



All dimensions in mm

All tolerances ±0.15 mm unless otherwise stated

**IMPORTANT NOTES**

Connection should be made via PCB sockets only. Soldering to pins will seriously damage your sensor.

The vent hole must be obscured. Obstruction of the vent hole may result in glitching.

All performance data is based on conditions at 20°C, 50%RH and 1013 mBar, using City Technology recommended electronics. For sensor performance data under other conditions, please contact City Technology.



# DRAFT

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

<b>GAS</b>	<b>Concentration</b>	<b>Reading (% O<sub>2</sub>)</b>
Hydrocarbons	100%	0%
Hydrogen	100%	< -2%
Carbon Monoxide	20%	< -0.5%

**IMPORTANT NOTE:** Acid gases such as CO<sub>2</sub> and SO<sub>2</sub> 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% output per 1% CO<sub>2</sub>. Oxygen CiTiceLs are not suitable for continuous operation in concentrations of CO<sub>2</sub> above 25%.

The cross-sensitivity values quoted are based on tests conducted on a small number of sensors. They are intended to indicate sensor response to gases other than the target gas. Sensors may behave differently with

### **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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Performance characteristics on this data sheet outline the performance of newly supplied sensors. Output signal can drift below the lower limit over time.