

7ETO CiTiceL®

Ethylene Oxide (C₂H₄O) Gas Sensor

Key Features & Benefits:

- Robust, industry standard 7-Series packaging
- Compact Size

Technical Specifications

MEASUREMENT

Operating Principle	3-electrode electrochemical
Measurement Range	0-20 ppm C ₂ H ₄ O
Maximum Overload	100 ppm C ₂ H ₄ O
Filter	None
Sensitivity	2.25 ± 0.65 μA/ppm
Response Time (T₉₀)	<140 Seconds at 20°C
Baseline Offset (clean air)	0 to +1 ppm C ₂ H ₄ O equivalent
Zero Shift (-20°C to +40°C)	< 2 ppm C ₂ H ₄ O equivalent
Resolution	0.1 ppm (when used with recommended electronics)
Repeatability	1% of signal
Linearity	Linear

ELECTRICAL

Recommended Load Resistor	10 Ω
Bias Voltage	+300 mV

MECHANICAL

Weight	17 g
Housing Material:	
Cap	Polycarbonate
Body	ABS
Orientation	Any

ENVIRONMENTAL

Operating Temperature Range	-20°C to +50°C
Recommended Storage Temp	0°C to 20°C
Operating Pressure Range	Atmospheric ± 10%
Operating Humidity Range	15 - 90% RH non-condensing

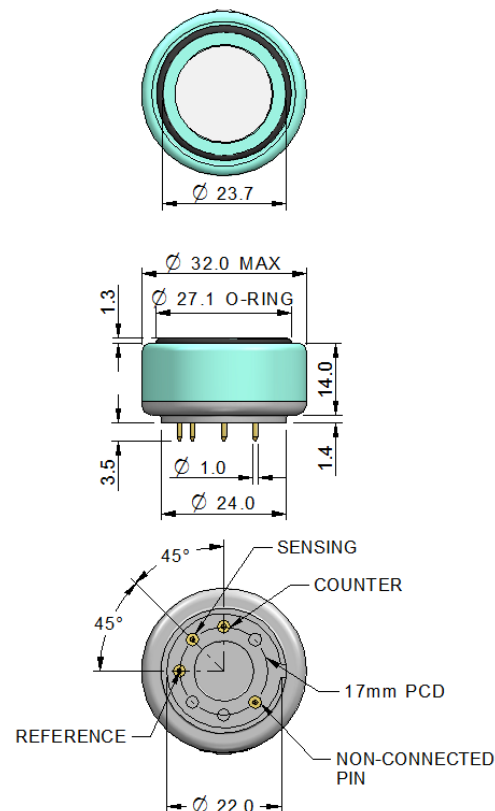
LIFETIME

Long Term Sensitivity Drift	<5% signal loss/year
Expected Operating Life	Two years in air
Storage Life	6 months in CTL container
Standard Warranty	12 months from date of despatch

IMPORTANT NOTE:

All performance data is based on conditions at 20°C, 50% RH and 1013 mBar, using City Technology recommended circuitry. For sensor performance data under other conditions, refer to Operating Principles OP09 or contact City Technology.

Product Dimensions



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

PART NUMBERS

7ETO is supplied without bias board. If a bias board is required with the sensor, 7BETO should be ordered.

Sensor	Order Code
7ETO (without bias board)	AT704-400
7BETO (with bias board)	AT707-400

IMPORTANT NOTE:

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

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

Whilst CiTiceLs are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table below is not exclusive and other gases not included in the table may still cause a sensor to react. Quoted values represent the cross sensitivity as a percentage, with respect to the ethylene oxide response (=100%)

Gas	7ETO Cross sensitivity (%)
Carbon Monoxide, CO	≈ 40%
Ethanol, C ₂ H ₅ OH	≈ 55%
Toluene, C ₆ H ₅ CH ₃	≈ 20%
Methyl Ethyl Ketone, CH ₃ .CO.CH ₂ .CH ₃	≈ 10%

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 changes in ambient conditions and any batch may show significant variation from the values quoted.

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