

Product Data Sheet

Product Datasheet 4LXH Carbon Monoxide Sensor

Document Purpose

The purpose of this document is to present the performance specification of the 4LXH Carbon Monoxide gas sensor.

This document should be used in conjunction with the Operating Principles (OP08) and the Product Safety Datasheet (PSDS 17).

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 OP08.

Product Data Sheet

Key Features & Benefits:

- Designed for Breath Analysis
- Low Cross Sensitivity to Hydrogen

Technical Specifications

MEASUREMENT

Operating Principle	2-electrode electrochemical
Measurement Range	0-200 ppm
Maximum Overload	300 ppm
Filter	To remove hydrocarbons
Sensitivity*	200 ± 65 nA/ppm
Response Time (T₉₀)*	< 30 Seconds
Baseline Offset (clean air)	-1 to +1 ppm equivalent
Zero Shift (-40°C to +50°C)	< 2 ppm equivalent
Repeatability	< ±5%
Linearity	Linear

ELECTRICAL

Recommended Load Resistor	5 Ω
Bias Voltage	0 V
Resolution	Dependent on Electronics (See Operating Principles)

MECHANICAL

Housing Material	Noryl 110
Weight	5g (approx.)
Orientation	Any

ENVIRONMENTAL

Operating Range (Continuous):	
Temperature	0°C to +30°C at 20%RH
Humidity	25% to 90%RH non-condensing
Operating Range (Intermittent):	
Temperature	0°C to +50°C at 20%RH
Humidity	15% to 90%RH non-condensing
Operating Pressure Range	1 atm ± 10%

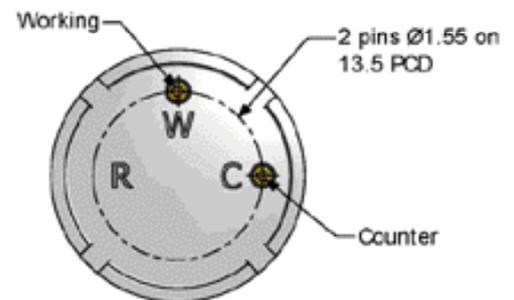
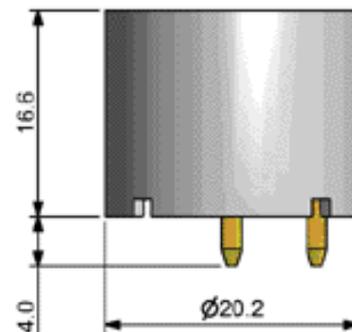
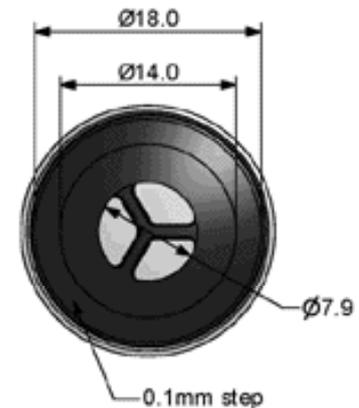
INTRINSIC SAFETY DATA

Maximum at 300 ppm	0.1 mA
Maximum o/c Voltage	1.3 V
Maximum s/c Current	<1.0 A

LIFETIME

Long Term Output Drift*	< 5% per annum
Recommended Storage Temp	+10°C to +30°C
Expected Operating Life	2 years in normal use
Storage Life	6 months in sealed container

Product Dimensions



All dimensions in mm
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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Typical Applications

Breath analysis, particularly for the smoking cessation market

Poisoning

CiTiceLs are designed for operation in a wide range of environments and harsh conditions. However it's 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.

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.

Gas	Cross Sensitivity
Hydrogen	<12%

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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