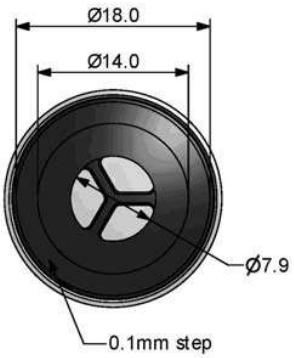
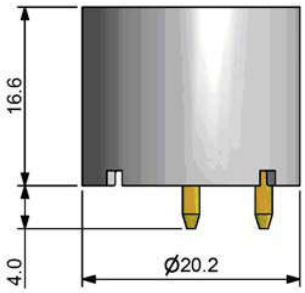
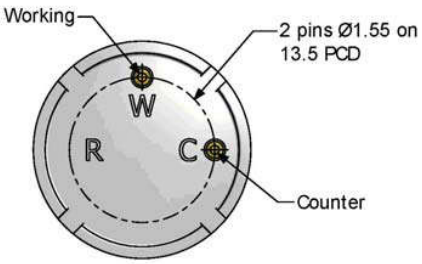
Carbon Monoxide CO LXH Sensor







Important Notes: All specifications are measured on new cells at 20°C, 50% RH and 1013mBar pressure unless otherwise indicated.

1. Linear range.
2. After exposure to high concentrations of Carbon Monoxide, the cell should be left for an extended period of time to recovery fully its original characteristics.
3. The performance characteristics are based on this temperature range. However the cell can be used outside this range but not all performance specifications will then be valid. If the cell is to be used outside this range, then the user should characterise the cell for their application.

The LXH is a high quality, cost effective 2-electrode electrochemical sensor cell designed for the detection of Carbon Monoxide in air and where there may be Hydrogen present as a cross-interferent. The primary application for this cell is for the measurement and analysis of Carbon Monoxide in breath and for smoking cessation programmes.

SPECIFICATION

Operating principle:	2-electrode electrochemical
Gas detected:	Carbon Monoxide (CO)
Measurement range[1]:	0 – 200ppm
Maximum overload[2]:	300ppm
Hydrogen cross-sensitivity:	< 12% measured at 20°C and 30 seconds after introduction of Hydrogen (batch average)
Filter:	Included to remove hydrocarbons
Expected Lifetime:	2 years from date of manufacture
Output signal:	200 nA/ppm ± 33%
Temperature range[3]:	Continuous: 0°C to +30°C at 20% RH Intermittent: 0°C to +50°C at 20% RH
Pressure range:	1 atm ± 10%
Humidity range:	Continuous: 25-90% RH non-condensing Intermittent: 15-90% RH non-condensing
Response time:	T_{90} < 30 seconds at 20°C
Baseline offset (clean air):	-1 to +1ppm equivalent
Zero shift (-40 °C to +50°C):	< 2ppm equivalent
Long term output drift:	< 5% per annum
Linearity:	Linear
Repeatability:	< ±5%
Recommended load resistor:	5 Ω
Bias voltage:	0V (not required)
Resolution:	dependent on electronics
Warranty period:	18 months from manufacture date

INTRINSIC SAFETY DATA

Maximum current at 300ppm:	0.1 mA
Maximum O.C. voltage:	1.3 V
Maximum S.C. current:	< 1.0 A

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Carbon Monoxide CO LXH Sensor

PHYSICAL SPECIFICATION

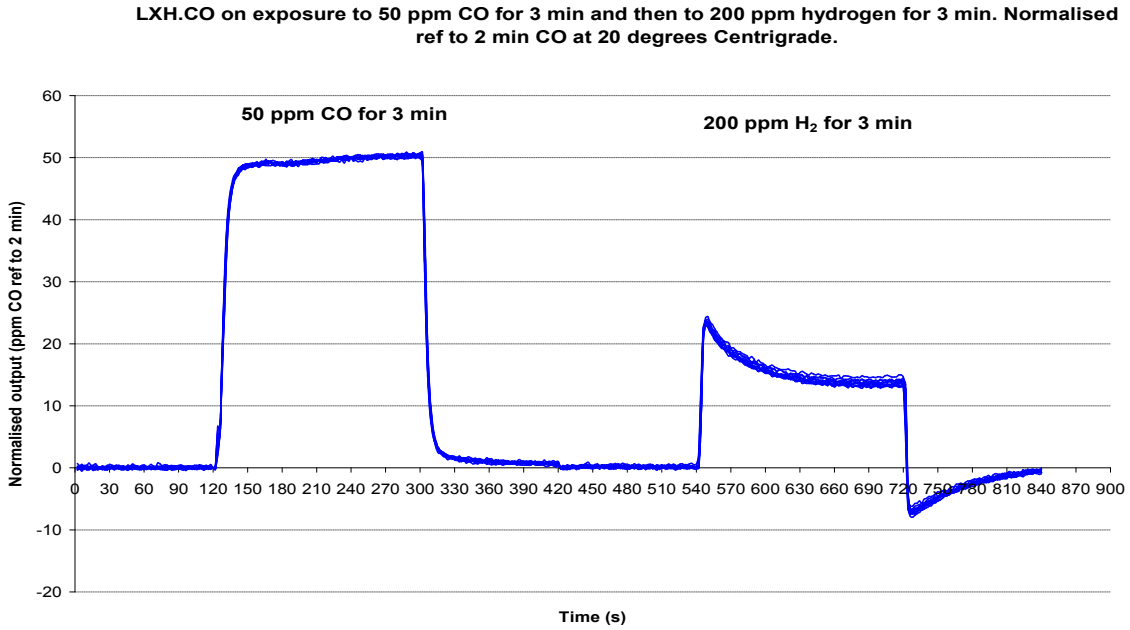
Weight:	5g (approx)
Housing material:	Noryl 110
Recommended Storage conditions:	+10 to +30°C
Size:	20.25mm diameter, 20.6mm tall (including pins)
Orientation:	Any
Part number:	2112B3008

POISONING

Sixth Sense Cells 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 Cell, as the solvent may cause crazing of the plastic. PCB sockets are recommended for the sensor pin connection. Soldering or using glue with the sensor should be avoided and will invalidate warranty.

HYDROGEN CROSS–SENSITIVITY

Typical Hydrogen cross-sensitivity of the LXH is shown below. The cross-sensitivity is tested on a batch basis and the average cross-sensitivity to Hydrogen at 20°C shall be less than 12% of the Carbon Monoxide sensitivity 30 seconds after the introduction of Hydrogen.



Whilst sensors are designed to be highly specific to the gas they are intended to measure, they may still respond to some to degree to other gases. The cross-sensitivity data 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.

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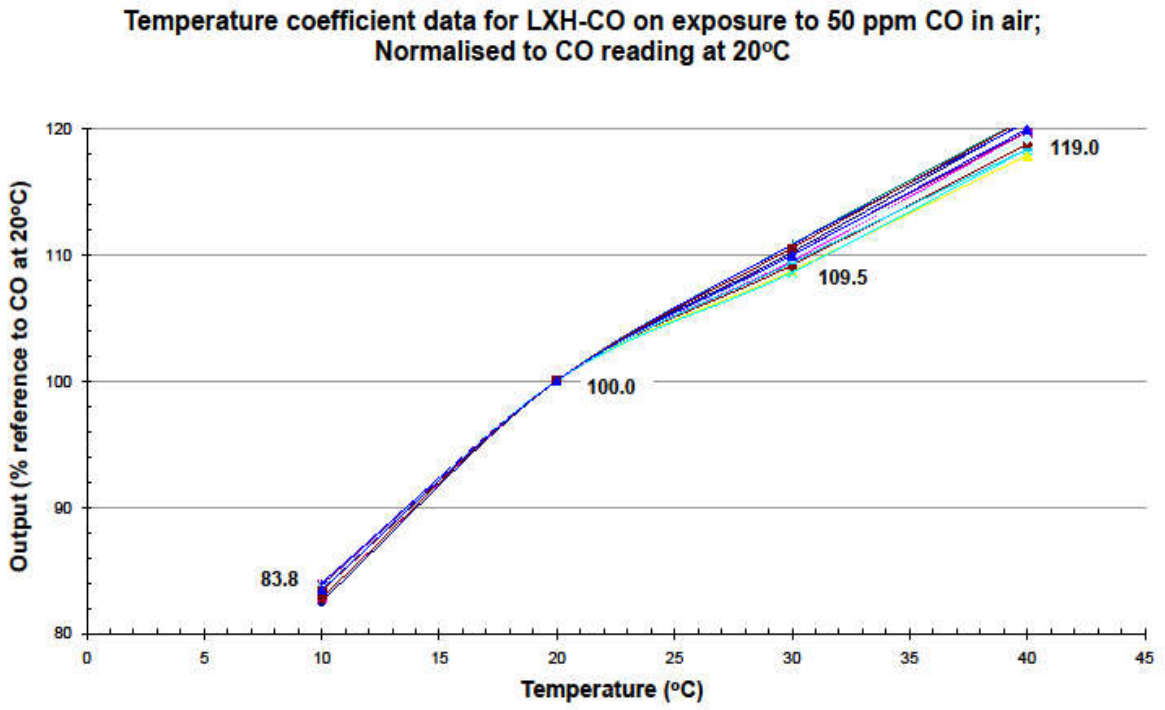
TEMPERATURE CO-EFFICIENT



Notes: Sensors are designed to operate in a wide range of harsh environments and conditions. However, it is important to avoid exposure to high concentrations of solvent during storage, fitting into instrumentation and operation. When using sensors on PCBs, degreasing agents should be used prior to the sensor being fitted. PCB sockets are recommended for the sensor pin connection. Soldering or using glue with the sensor should be avoided and will invalidate warranty.

By the nature of the technology used, any sensor can potentially fail to meet specification without warning. Euro-Gas makes every effort to ensure reliability of all sensors but where life safety is a performance requirement of the product and, where practical, Euro-Gas recommends that all gas sensors and instruments using sensors are checked for response to gas before use. The data contained in this document is believed to be accurate and reliable. The data given is for guidance only. Euro-Gas Management Services Ltd accepts no liability for any consequential losses, injury or damage resulting from the use of this datasheet or the information contained in it. Customers should test the sensors under their own conditions to ensure that the sensors are suitable for their own requirements and in accordance with the plans and circumstances of the specific project and any standards/regulations pertaining to the country in which the sensors will be utilised. Performance characteristics on this data sheet outline the performance of newly supplied sensors. Output signal can drift below the lower limit over time. This datasheet is not intended to form the basis of a contract and in the interest of product improvement, Euro-Gas reserves the right to alter design features and specifications without notice. 09/16

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