



## Key Features & Benefits:

- Fast response and recovery time
- Superior long-term performance at temperature and humidity extremes.

## Technical Specifications

### MEASUREMENT

<b>Operating Principle</b>	3-electrode electrochemical
<b>Nominal Range</b>	0 to 10,000 ppm
<b>Maximum Overload</b>	20,000 ppm
<b>Filter</b>	To remove acid gases
<b>Filter Life</b>	See page 2
<b>Sensitivity</b>	70 ± 15 nA/ppm
<b>Response Time (T<sub>90</sub>)</b>	< 15 s
<b>Recovery Time (R<sub>90</sub>)</b>	< 15 s
<b>Baseline Offset (clean air)</b>	< ±2 ppm CO equivalent
<b>Baseline Shift:</b>	
-20°C to +20°C	< ±2 ppm CO equivalent
+20°C to +55°C	Typically < +4 ppm (+9 ppm max.)
<b>Repeatability</b>	< ±2% CO equivalent
<b>Linearity</b>	Linear up to 20,000 ppm

### ELECTRICAL

<b>Resolution</b>	< 1 ppm
(Electronics dependent)	
<b>Recommended Load Resistor</b>	5 Ω
<b>Bias Voltage</b>	Not required

### MECHANICAL

<b>Housing Material</b>	Noryl N110
<b>Pin Material</b>	Gold over nickel plated brass
<b>Weight</b>	5 g (nominal)
<b>Orientation Sensitivity</b>	None

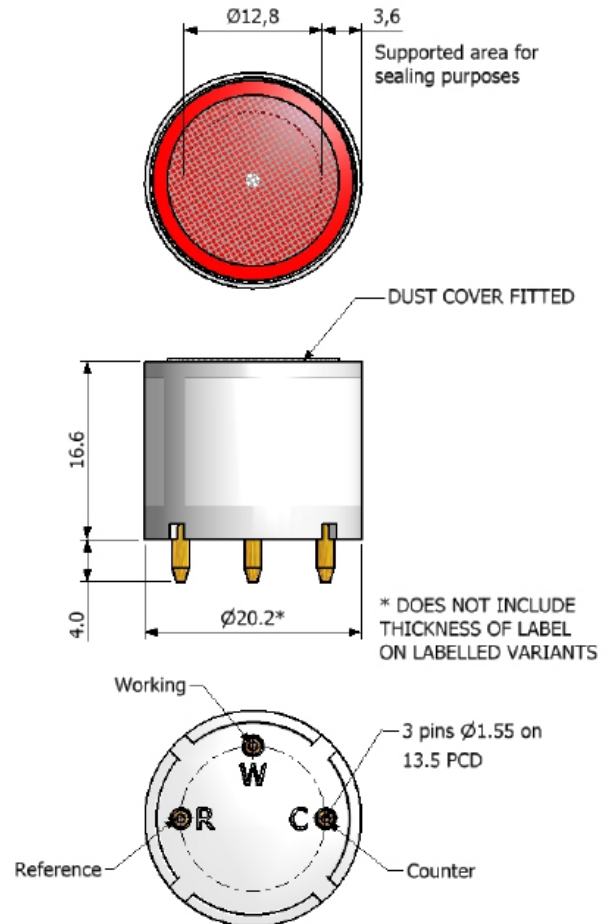
### ENVIRONMENTAL

<b>Intended Use</b>	Portable instruments for Flue Gas analysis
<b>Operating Temperature Range</b>	-40°C to +55°C See Characterisation Note
<b>Temperature Coefficient:</b>	
<b>at -40°C</b>	65 ± 25% of signal w.r.t. +20°C
<b>at -20°C</b>	80 ± 15% of signal w.r.t. +20°C
<b>at +55°C</b>	105 ± 15% of signal w.r.t. +20°C
<b>Operating Pressure Range</b>	800 to 1200 mbar
<b>Operating Humidity Range</b>	15% RH to 95% RH

### LIFETIME

<b>Long Term Output Drift</b>	< 5% per annum
<b>Recommended Storage Temp</b>	0°C to +20°C in sealed container
<b>Expected Operating Life</b>	36 months in air
<b>Standard Warranty</b>	24 months from date of despatch

## Product Dimensions



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

### IMPORTANT NOTE:

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

All performance data is based on conditions at 20°C, 50% RH and 1013 mBar, using recommended circuitry and flow rates.

# Product Data Sheet

## Poisoning

Sensors 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 sensor as the solvent may cause crazing of the plastic.

## Filter Information

High surface area high capacity filter removes acid gases such as SO<sub>2</sub>, NO & NO<sub>2</sub>

## Cross Sensitivity Table

Whilst sensors 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.

Gas	Concentration Used (ppm)	Cross Sensitivity (ppm CO equiv.)	Cross Sensitivity (%)	Filter Life (ppm hours)
Hydrogen Sulfide (H <sub>2</sub> S)	20	0 < x\$ < 1.5	0 < x\$ < 8	TBC
Sulfur Dioxide (SO <sub>2</sub> )	200	0	0	> 200,000
Nitric Oxide (NO)	100	-3 < x\$ < 0	-3% < x\$ < 0	> 60,000
Nitrogen Dioxide (NO <sub>2</sub> )	100	-3 < x\$ < 0	-3% < x\$ < 0	TBC
Hydrogen (H <sub>2</sub> )	800	< 480	< 60	n/a
Hydrogen Chloride (HCl)	150	0	0	n/a

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 may vary from batch to batch and with time from the values quoted.

### **SAFETY NOTE**

Although this product is not designed for use in safety applications, if it is used in such applications 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, to ensure that the sensor and/or instrument in which it is used, are operating properly. Failure to carry out such tests may jeopardise 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, the manufacturer reserves the right to make product changes without notice. No liability is accepted for any consequential losses, injury or damage resulting from the use of this document or from any omissions or errors herein. The data is given for guidance only. It does not constitute a specification or an offer for sale. 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 the manufacturer, 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.

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