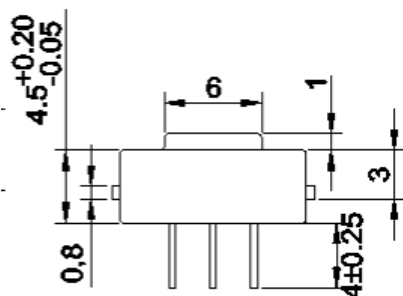
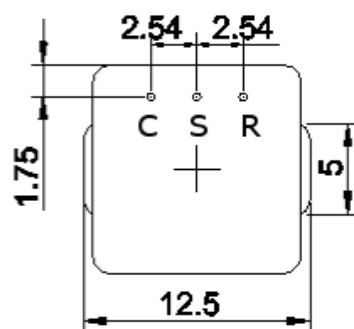
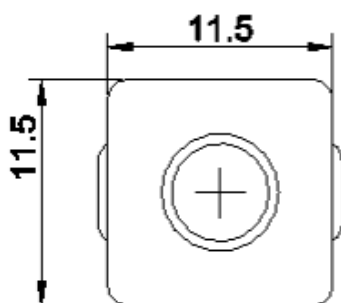
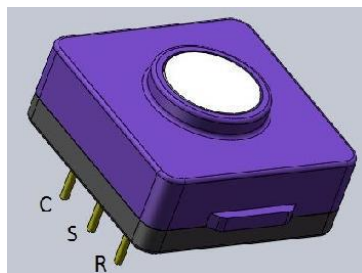


# MICRO SS SENSOR SOLID STATE MULTI-GAS / VOC



## FEATURES

- Advantages for air quality, gas detection and breath alcohol measurement equipment
- Micro size ideal for portable, fixed, wireless and digital applications
- High sensitivity with low noise
- Low cost alternative to PID detection
- Solid state technology without risk of leakage

## SPECIFICATION

<b>Measuring Principle:</b>	Amperometric, 3-electrode advanced solid state technology sensor
<b>Detectable Gases:</b>	Multi-gas and Volatile Organic Compounds VOC sensor calibrated to CO equivalent
<b>Standard Range:</b>	0 – 1000 ppm CO equivalent
<b>Maximum Overload:</b>	2000 ppm
<b>Linear Range:</b>	2000 ppm
<b>Lower Detectable Limit (LDL):</b>	≤ 2 ppm
<b>Resolution (16 Bit ADC):</b>	0.1 ppm
<b>Long Term Sensitivity Drift:</b>	< 1% / month
<b>Zero Drift in Clean Air:</b>	< 2 ppm
<b>Repeatability:</b>	1%
<b>Zero Current at Normal Conditions:</b>	+/- 100 nA
<b>Sensitivity:</b>	55 ± 15 nA/ppm
<b>Response Time (T50):</b>	<10 seconds
<b>Response Time (T90):</b>	<30 seconds
<b>Sensor Warm-Up Time (open/short):</b>	< 90 / 60 seconds
<b>Bias Voltage:</b>	0 mV
<b>Recommended Load Resistor:</b>	100 Ω

Note: PCB sockets are recommended for the sensor pin connection. Soldering or using glue with the sensor should be avoided and will invalidate warranty. Socket connector information available on request.

All performance specifications are based upon the following environment conditions: +23°C, 50% relative humidity, 1 atm (1013 mBar or ambient pressure), flow rate > 150qcm/min.

All dimensions are in mm. Tolerances are +/- 0.10mm unless otherwise stated.



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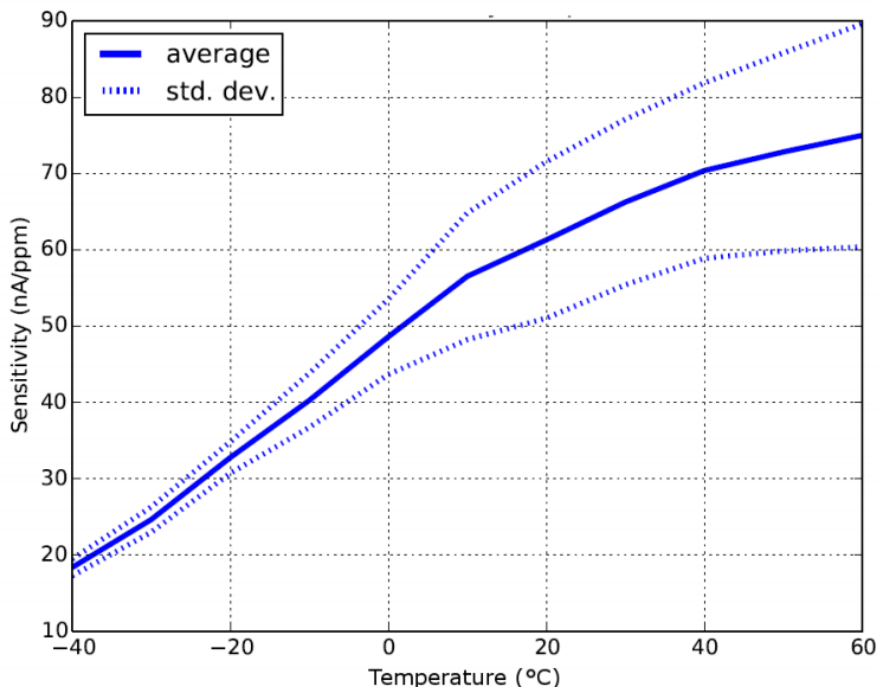
# MICRO SS SENSOR SOLID STATE MULTI-GAS / VOC

## SPECIFICATION

Temperature Range:	-20°C – +50°C
Humidity Range (non-condensing):	10 – 95% RH
Pressure Range:	800 – 1200 hPa
Expected Operating Life:	> 3 years
Storage Life:	6 months in original container
Storage Temperature:	0 – 20°C
Sensor dimensions:	12.5mm x 11.5mm x 9.5mm
Weight:	< 0.7g
Housing material:	ABS
Warranty Period:	12 months from date of despatch
Part Number:	2112B012780



## TEMPERATURE CO-EFFICIENT



Note: PCB sockets are recommended for the sensor pin connection. Soldering or using glue with the sensor should be avoided and will invalidate warranty.

All performance specifications are based upon the following environment conditions: +23°C, 50% relative humidity, 1 atm (1013 mBar or ambient pressure), flow rate > 150qcm/min.



# MICRO SS SENSOR SOLID STATE MULTI-GAS / VOC

## CROSS SENSITIVITY DATA

GAS	TEST CONCENTRATION (PPM)	READING (PPM)
Ammonia NH <sub>3</sub>	50ppm	0.1ppm
Carbon Dioxide CO <sub>2</sub>	1000ppm	0ppm
Carbon Monoxide CO	100ppm	100ppm
Chlorine Cl <sub>2</sub>	1ppm	-6ppm
Dichloromethane CH <sub>2</sub> Cl <sub>2</sub>	30ppm	0ppm
Ethanol C <sub>2</sub> H <sub>5</sub> OH	104ppm	100ppm
Ethylene Oxide C <sub>2</sub> H <sub>4</sub>	14ppm	7ppm
Ethylene C <sub>2</sub> H <sub>2</sub>	80ppm	250ppm
Hydrogen H <sub>2</sub>	100ppm	20ppm
Hydrogen Cyanide HCN	10ppm	9ppm
Hydrogen Sulphide H <sub>2</sub> S	10ppm	400ppm
Isopropanol C <sub>3</sub> H <sub>7</sub> OH	<4000ppm	>750ppm
Methane CH <sub>4</sub>	30,000ppm	0
Methanal CH <sub>2</sub> O / Formaldehyde	-	Ok
Methanol CH <sub>3</sub> OH	-	Ok
Methylpropene C <sub>4</sub> H <sub>8</sub>	15ppm	18ppm
Nitrogen Dioxide NO <sub>2</sub>	10ppm	-5ppm
Nitric Oxide NO	25ppm	Not expected
Ozone O <sub>3</sub>	0.5ppm	0
Sulphur Dioxide SO <sub>2</sub>	-	Ok
Toluene C <sub>7</sub> H <sub>8</sub>	-	Ok with bias
Xylene C <sub>8</sub> H <sub>10</sub>	-	Ok
Gasoline	-	Ok

Note: please see over page for cross-sensitivity table notes.



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# MICRO SS SENSOR SOLID STATE MULTI-GAS / VOC

## CROSS SENSITIVITY DATA

### Cross-sensitivity Data Table Notes:

Test conditions at +23°C, 50% relative humidity, 1 atm (1013 mBar or ambient pressure), flow rate > 150qcm/min.

Cross-sensitivity gases are not target gases. Relationship can change overtime.

Cross sensitivities indicated with Ok showed a signal response under a bump test.

Whilst the SS sensor is designed to be highly specific to the gas it is intended to measure, it will still respond to some degree to various gases. The table is not exclusive and other gases not included in the table may still cause a sensor to react.

The cross-sensitivity values quoted are based on tests conducted on a small number of new 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.

The figures in this table are typical values and should not be used as a basis for cross calibration. Cross sensitivities may not be linear and should not be scaled. For some cross interference, break through will occur if gas is applied for a longer time period.

**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.

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. 04/16



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