H2S-100F SENSOR – LONG LIFE HYDROGEN SULPHIDE SENSOR

FEATURES

- Mini size ideal for portable, fixed, low power and battery applications
- Long lifetime technology of 15 years with no risk of leakage
- Zero power consumption
- High sensitivity, fast response
- Selective detection, high precision
- Wide temperature range with high temperature capability up to 125°C

TYPICAL APPLICATIONS

- Industrial Detection & Safety Monitoring
- Portable instruments
- Energy Storage Systems
- Li battery factories
- Li battery warehouses
- Electric vehicles
- Wearable electronics and instrumentation
- Monitoring in Battery Rooms
- Environmental Monitoring
- Process Monitoring
- Energy Engineering

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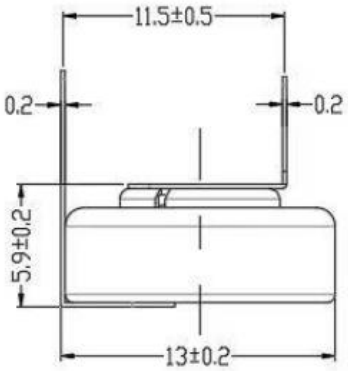
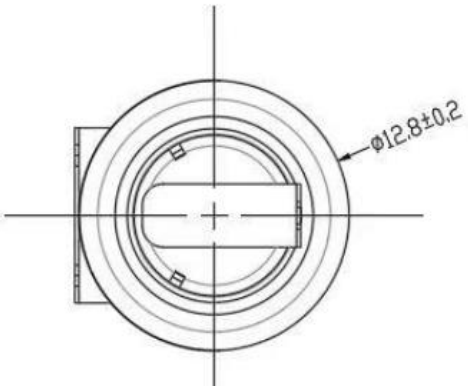
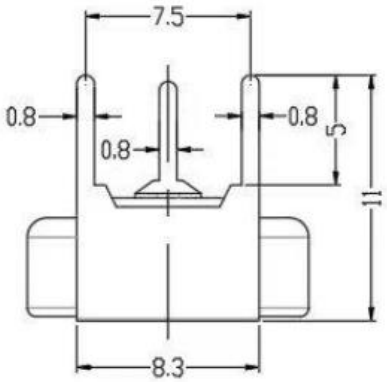
DIMENSIONS







All dimensions are in millimetres mm.
All tolerances are +/- 0.15mm.

SPECIFICATION

Measuring Principle:	Mini fuel cell, 2-electrode sensor
Detectable Gases:	Hydrogen Sulphide H2S
Standard Range:	0 – 100ppm H2S
Optional Ranges on request:	0-2ppm, 0-5000ppm H2S
Maximum Over-Range:	200ppm
Sensitivity:	60 ± 20 nA/ppm
Response Time (T_{90}):	< 30 seconds
Resolution:	0.5 ppm
Repeatability:	3 % typically
Lower Detectable Limit (LDL):	3 ppm
Warm-up time:	Less than 60 seconds
Linearity:	Linear
Expected Operating Life:	15 years in air
Operating Temperature Range:	-40°C to +125°C
Humidity Range (non-condensing):	10 – 90% RH
Pressure Range:	1 atm +/- 10%
Weight:	3 g
Warranty Period:	24 months from date of manufacture
Part Number:	2112B600100

All performance specifications are based upon the following environment conditions: +20°C, 50% relative humidity and 1 atm (1013 mBar or ambient pressure).

Note: The sensor can be soldered into PCBs. Please see Operating Notes for more details. Do not use reflow or wave soldering, as this can damage the sensor.

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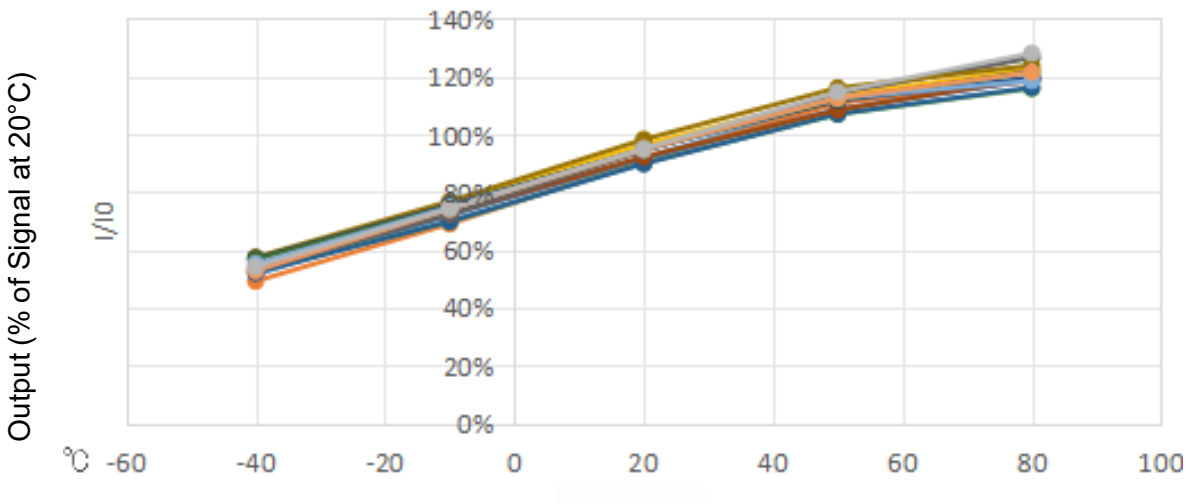
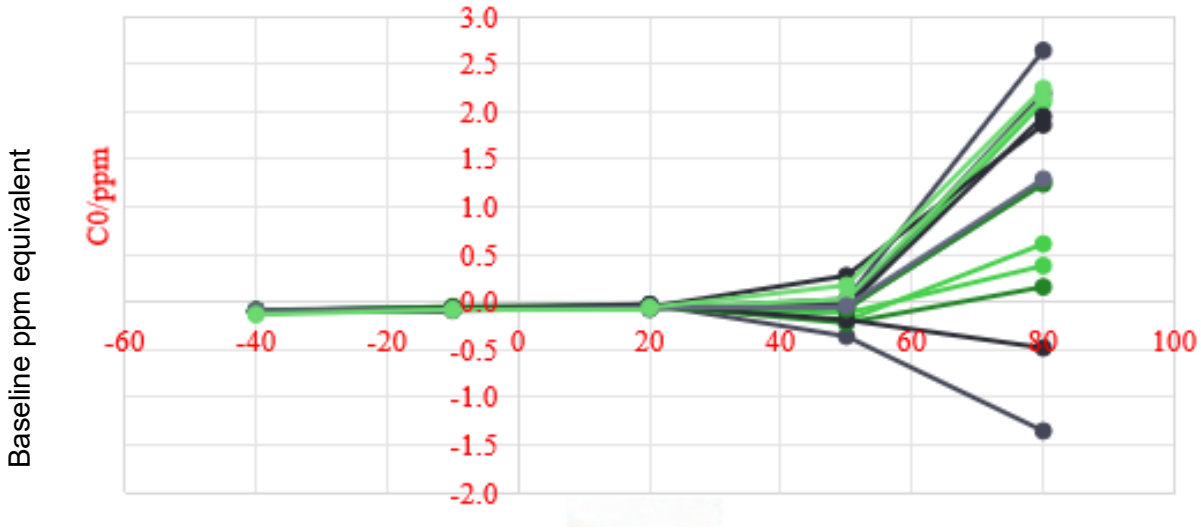
TEMPERATURE DEPENDENCE

Output vs Temperature



Baseline vs Temperature



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CROSS SENSITIVITY DATA

GAS	TEST CONCENTRATION	H2S READING IN PPM
Acetone AD-1	200ppm	22ppm
Ammonia NH_3	1000ppm	11ppm
n-Butane C_4H_{10}	200ppm	5ppm
Ethanol C_2H_6O	1000ppm	2ppm
Hexamethyldisilazane / HMDS	200ppm	1ppm
Hydrogen H_2	1000ppm	36ppm
Isopropanol C_3H_8O	200ppm	18ppm
Methane CH_4	1000ppm	6ppm
Refrigerant R22	1000ppm	0ppm

The 'Test Concentration' is used to test the sensor with 2 hours exposure to interference gas, followed by 1 hour in clean air.

Sensor performance is temperature dependent. All performance specifications are based on test conditions with new sensors with the following environment conditions: +25ºC, 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.

Calibration with cross-sensitivity gas is not recommended. It is recommended to calibrate an instrument using the target gas for accurate measurements. Cross sensitivities may not be linear and should not be scaled. Whilst the sensor is designed to be highly specific to the gas it is intended to measure, 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 sensors to indicate sensor response to gases other than the target gas. Sensors may behave differently with changes in application and environmental conditions. Any batch may show variation from the values quoted. Cross-sensitivities are supplied as a guidance only and do not form part of the product or datasheet specification.

Notes: The sensor can be soldered into PCBs. Please see Operating Notes for more details. Do not use reflow or wave soldering, as this can damage the sensor. 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. 2509

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