

Product Information Pack

Product Datasheet

H2S 3E 2000 S Hydrogen Sulfide Gas Sensor
with 4-20 mA Transmitter

Document Purpose

The purpose of this document is to present the performance specification of the H2S 3E 2000 S hydrogen sulfide transmitter.

This document should be used in conjunction with Operating Principles (OP21).

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 OP21.

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- Key Features & Benefits:**
- High range H₂S sensor
 - Highly selective
 - Industry standard 4-20 mA output
 - 40-200 mV option

Technical Specifications

MEASUREMENT

Target Gas	Hydrogen Sulfide (H ₂ S)
Operating Principle	3-electrode electrochemical
Measurement Range	0-2000 ppm H ₂ S
Filter	None
Output	4-20 mA, 2 wire loop powered 40-200 mV
Response Time (T90)*	<60 s Calculated from 2 minute exposure time
Resolution	0.01 mA

ELECTRICAL

Power Supply Required	10 - 30 VDC single-ended
Maximum Loop Resistance	700 Ω
Calibration	Via PCB mounted button and potentiometer

MECHANICAL

Mounting	Via 3mm PCB mounting holes
Weight	<13 g
Sensor Housing Material	ABS
Recommended Orientation	Membrane pointing downwards or horizontal direction

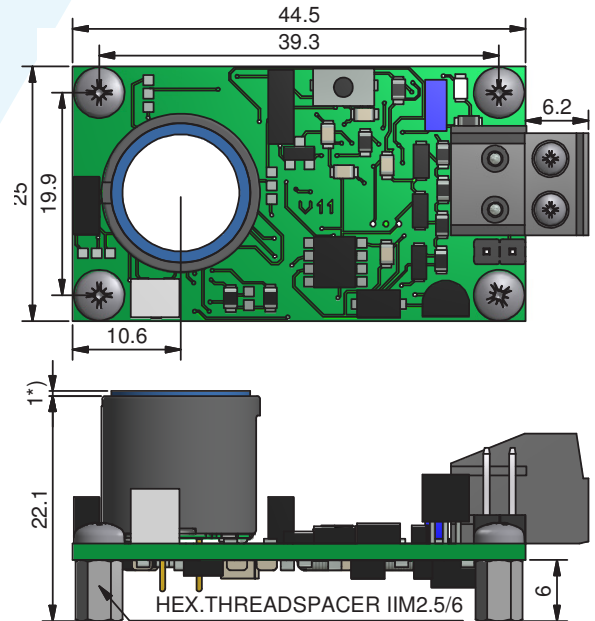
ENVIRONMENTAL

Typical Applications	Biogas, Landfill
Operating Temperature Range	-20°C to +50°C
Operating Pressure Range	Atmospheric ± 10%
Operating Humidity Range	15% to 95% rH non-condensing

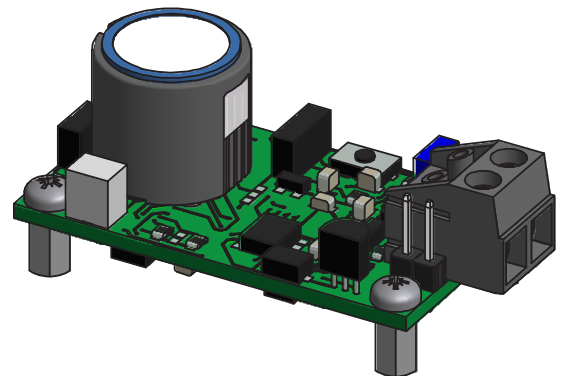
LIFETIME

Long Term Output Drift	<15% in 6 months
Expected Operating Life	>15 months in air
Storage Life	8 weeks in sealed container

Product Dimensions



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



Specifications are valid at 20°C,
50% RH and 1013 mBar.

* Specifications are valid at 20°C, 50% RH and 1013 mBar, using 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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Poisoning

Sensoric 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 modules with printed circuit boards (PCBs), degreasing agents should be used before the module is fitted. Do not glue directly on or near the modules as the solvent may cause crazing of the plastic.

Cross Sensitivity Table

Whilst Sensoric cells 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, the module should be calibrated using the gas under investigation.

Gas	Concentration Used	Reading (ppm H ₂ S)
Ammonia, NH ₃	1000 ppm	0.0
Carbon Dioxide, CO ₂	50%	0.0
Hydrogen, H ₂	2%	<110
Iso Propyl Alcohol, C ₃ H ₇ OH	8900 ppm	0.0
Methane, CH ₄	60%	0.0

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.

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 City Technology Limited reserves the right to make product changes without notice. 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 City Technology Limited, 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.