



Solid Polymer Electrochemical Gas Sensing Technology

ES1-HCN-50-01 Hydrogen Cyanide Gas Sensor
Datasheet

Easy Gas Sensor

ES1-HCN-50 Hydrogen Cyanide Gas



» Part Number

01-ES1-HCN-50-01

» Futures

-  High sensitivity
-  Low cost at large volumes
-  No electrolyte leakage
-  Individually calibrated (including test report)
-  Strong signal to noise
-  Long lifetime

» Typical Applications

-  General Gas Detection
-  Coal Mine
-  Plating
-  Storage Room
-  Industry



» Technical Specifications

Performance

Sensitivity	25 nA/ppm ± 15 nA/ppm
Zero Current	± 100nA
Range	0-50ppm
Maximum Overload	100ppm
Resolution (16Bit ADC)	0.1ppm
Response Time	T ₅₀ < 25s, T ₉₀ < 130s
Repeatability	1%
Lower Detectable Limit (LDL)	≤ 2ppm
Linear Range	50 ppm

Environment

Operating Temperature Range	-20 to +55°C
Operating Humidity Range	15-95 %RH. Non-condensing
Operating Pressure Range	800 to 1200 hPa
Storage Temperature	0 to 20°C

Operation

Operating Principle	Amperometric, 3-electrode
Bias Voltage	0 mV
Recommended Load Resistor	100 Ω
Warm-Up Time	< 90 / 60 s

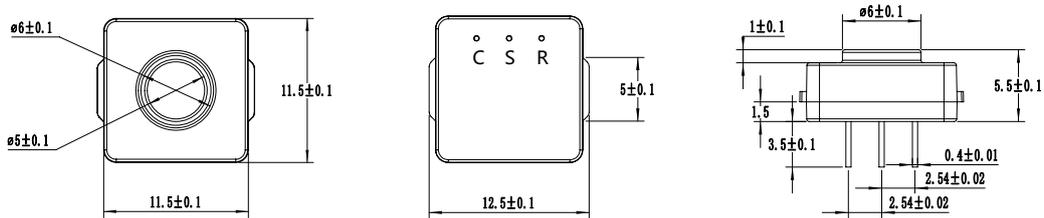
Lifetime

Long Term Sensitivity Drift	< 1 %/month
Expected Lifetime	> 3 years in air
Zero Drift in Clean Air	< 2 ppm
Storage Life	6 months
Warranty	12 months

Housing

Housing Material	PPO
Weight	<0.7g

» Dimensions



» Cross Sensitivity

Gas	Formula	Test Concentration	Sensor Reading
Ammonia	NH ₃	50ppm	0ppm
Carbon Dioxide	CO ₂	1000ppm	0ppm
Carbon Monoxide	CO	100ppm	95ppm
Chlorine	Cl ₂	1ppm	-0.5ppm
Dichlor Methane	CH ₂ Cl ₂	30ppm	0ppm
Ethanol	C ₂ H ₆ O	104ppm	100ppm
Ethylene Oxide	C ₂ H ₅ OH	14ppm	7ppm
Ethyne	C ₂ H ₂	80ppm	250ppm
Hydrogen	H ₂	100ppm	20ppm
Hydrogen Sulphide	H ₂ S	10ppm	400ppm
Isopropanol	C ₃ H ₇ OH	< 4000ppm	> 750ppm
Methan	CH ₄	30000ppm	0ppm
Methanol	CH ₃ OH	/	Yes
Methylpropene	C ₄ H ₈	15ppm	18ppm
Nitric Oxide	NO	25ppm	-10ppm
Nitrogen Dioxide	NO ₂	10ppm	-5ppm
Ozone	O ₃	0.5ppm	0ppm
Sulphur Dioxide	SO ₂	10ppm	1ppm
Toluene	C ₇ H ₈	10ppm	0ppm
Xylene	C ₈ H ₁₀	10ppm	0ppm
Formaldehyde	HCHO	/	Yes

Note:

- 1) The above interference factors may vary due to different sensors and service life, please refer to the actual test results.
- 2) This table is not complete for all cross gases, other gas please contact with us.

Disclaimer

The EC Sense performance data stated above is based on data obtained under test conditions using the EC Sense gas distribution system and AQS test software. In the interest of continuous product improvement, EC Sense reserves the right to change design features and specifications without notice. We are not responsible for any loss, injury or damage caused by this. EC Sense assumes no responsibility for any indirect loss, injury or damage resulting from the use of this document, the information contained therein or any omissions or errors herein. This document does not constitute an offer to sell. The data it contains are for informational purposes only and cannot be considered a guarantee. Any use of the given data must be evaluated and determined by the user to comply with federal, state and local laws and regulations. All specifications outlined are subject to change without notice.

 **Warning**

EC Sense sensors are designed for use in a variety of environmental conditions. However, due to the principles and characteristics of solid polymer electrochemical sensors and to ensure normal use, users must strictly follow this article during storage, assembly and operation of the module. General-purpose PCB circuit board application methods and illegal applications / violation of the application will not be covered by the warranty. Although our products are highly reliable, we recommend checking the module's response to the target gas prior to utilization to ensure on-site use. At the end of the products service life, please do not discard any electronics in the domestic waste, instead follow the local governments electronic waste recycling regulations for disposal.



Business Centre
Europe and the rest of the world

EC Sense GmbH
Wangener Weg 3
82069 Hohenschäftlarn, Germany
Tel: +49(0)8178-99992-10 Fax: +49(0)8178-99992-11
Email: office@ecsense.com
www.ecsense.com www.ecnose.de

Business Centre
Asia

Ningbo AQSystems Technology Co., Ltd.
F4-17 Buliding, Zhong Wu Technology Park No.228,
Jin Gu Bei Road, Yinzhou District NingBo,
Zhejiang Provence, P.R. China Post Code: 315100
Tel: +86(0)574 88097236, 88096372
Email: info@aqsystems.cn
www.ecsense.cn, www.ecnose.com