ES4-H2-5%-01

ES4-H2-5% Hydrogen Gas Sensor

EC Sense • Hydrogen • Amperometric, 3-electrode

The EC Sense ES4-H2-5% is an electrochemical gas sensor for Hydrogen detection, with a 0 – 5% vol. range, 0.2 nA/ppm ± 0.1 nA/ppm sensitivity and T50 < 35 s, T90 < 90 s response. Standard ABS housing at about 6 g for easy pin soldering and fast integration into conventional gas-detection modules Well suited to industrial safety, leakage detection and emission monitoring, with a designed lifetime of > 5 years.

Specifications

Operating Principle	Amperometric, 3-electrode
Bias Voltage	0 mV
Range	0 – 5% vol.
Maximum Overload	> 20% vol. (expected)
Resolution	0.001% vol. (16-bit ADC)
Sensitivity	0.2 nA/ppm ± 0.1 nA/ppm
Response Time	T50 < 35 s, T90 < 90 s
Repeatability	1.5 % (typically)
Linearity	Linear
Zero Current	± 3 nA
Recommended Load	100 Ω
Warm-Up Time	< 60 s
Operating Temp.	-40 ℃ to +55 ℃
Operating Humidity	15-95% RH non-condensing
Operating Pressure	800 to 1200 hPa
Storage Temp.	0 ℃ to 20 ℃ (Optimum temp. 4 ℃ to 6 ℃)
Housing	ABS
Weight	< 6 g
Long-Term Drift	< 5 %/year
Expected Lifetime	> 5 years
Zero Drift in Clean Air	< 0.001% vol.
Storage Life	12 months
Warranty	12 months

Key Features

- Detects with high selectivity a wide variety of gases

- Long lifetime > 5 years
- Lower detection limit of 10 ppm
- High overload range of 20% vol.
- No humidity dependency
- No-poisoning
- Typical warm-up time in seconds
- Fast response time
- nA power consumption
- Linear output
- No zero line drift
- Better signal to noise ratio
- Wide temperature range of -40 °C to +55 °C
- Excellent sensitivity at low temperatures
- No leakage
- Small size
- RoHS compliant
- Easy Gas Sensor Solutions

Typical Applications

- Hydrogen Leakage
- Environmental Monitoring
- Hydrogen Industrial Plants
- Energy Engineering
- Process Monitoring

Calibration & Cross-Sensitivity

Calibrated with Hydrogen standard gas. Cross-sensitivity to other gases may exist — see the cross-sensitivity table in the datasheet.