ES4-H2S-5000-01

# ES4-H2S-5000 Hydrogen Sulfide Gas Sensor

EC Sense • Hydrogen Sulfide • Amperometric, 3-electrode

The EC Sense ES4-H2S-5000 is an electrochemical gas sensor for Hydrogen Sulfide detection, with a 0 – 5000 ppm range, 0.28 nA/ppm ± 0.05 nA/ppm sensitivity and T50 < 10 s, T90 < 30 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 > 3 years.

## Specifications

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|---|---|
| **Operating Principle** | Amperometric, 3-electrode |
| **Bias Voltage** | 0 mV |
| **Range** | 0 – 5000 ppm |
| **Maximum Overload** | 10000 ppm |
| **Resolution** | 0.1 ppm (16-bit ADC) |
| **Sensitivity** | 0.28 nA/ppm ± 0.05 nA/ppm |
| **Response Time** | T50 < 10 s, T90 < 30 s |
| **Repeatability** | 1 % |
| **Linearity** | Linear |
| **Zero Current** | ± 20 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 °C to 20 °C (Optimum temp. 4 °C to 6 °C ) |
| **Housing** | ABS |
| **Weight** | < 6 g |
| **Long-Term Drift** | < 5 %/year |
| **Expected Lifetime** | > 3 years |
| **Zero Drift in Clean Air** | < 2 ppm |
| **Storage Life** | 12 months |
| **Warranty** | 12 months |

## Key Features

- Detects with high selectivity a wide variety of gases

- Long lifetime > 3 years
- 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

## Typical Applications

- Emission Monitoring
- Sewage / Water Treatment Plant
- Biogas
- Garbage Disposal

## Calibration & Cross-Sensitivity

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