ES1-NH3-100-01

ES1-NH3-100 Ammonia Gas Sensor

EC Sense • Ammonia • Amperometric, 3-electrode

The EC Sense ES1-NH3-100 is an electrochemical gas sensor for Ammonia detection, with a 0 – 100 ppm range, 20 nA/ppm ± 10 nA/ppm (please see Note 3) sensitivity and T90 < 150 s (please see Note 3) response. PPO housing at under 0.7 g in an ultra-compact SMD package — ideal for portable detectors and space-constrained modules Well suited to industrial safety, leakage detection and emission monitoring, with a designed lifetime of > 3 years.

Specifications

Operating Principle	Amperometric, 3-electrode
Bias Voltage	0 mV
Range	0 – 100 ppm
Maximum Overload	200 ppm
Resolution	0.1 ppm (16-bit ADC)
Sensitivity	20 nA/ppm ± 10 nA/ppm (please see Note 3)
Response Time	T90 < 150 s (please see Note 3)
Repeatability	1 %
Linearity	Linear
Zero Current	± 2 nA
Recommended Load	100 Ω
Warm-Up Time	< 20 s
Operating Temp.	-20 ℃ to +55 ℃
Operating Humidity	15-95% RH non-condensing
Operating Pressure	Atmospheric pressure ± 10 %
Storage Temp.	0 °C to 20 °C (Optimum temp. 4 °C to 6 °C)
Housing	PPO
Weight	< 0.7 g
Long-Term Drift	< 10 % of measured value per year
Expected Lifetime	> 3 years
Storage Life	6 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 -20 °C to +55 °C
- Excellent sensitivity at low temperatures
- No leakage
- Small size
- RoHS compliant

Typical Applications

- Industrial Safety
- Leakage Detection
- Gas Manufacturing Process Monitoring
- Emission Monitoring
- Sewage/Water Treatment Plant
- Biogas
- Garbage Disposal
- Semiconductor Industry
- Livestock Farming

Calibration & Cross-Sensitivity

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