

Introduction

Prevent toxic ammonia (NH₃) exposure with the Fermion MEMS NH₃ Sensor, a high-sensitivity detector for 1-300ppm gas concentrations. Designed for cold storage, aquaculture, and industrial safety, this low-power sensor delivers fast, accurate results with MEMS technology.

Accurate NH₃ Detection (1-300ppm)

The MEMS-based ammonia sensor detects low to high concentrations with high sensitivity, ensuring reliable safety monitoring in hazardous environments.

Ultra-Low Power (< 20mA) & Compact

At just 13×13×2.5mm, this energy-efficient sensor integrates seamlessly into portable detectors and IoT safety systems.

Fast Response & Long Lifespan (≥5 Years)

With minimal preheating time and durable construction, the sensor is ideal for continuous monitoring in high-humidity or corrosive environments.

The MEMS series currently encompasses 11 different types of gas sensors ([HCHO](#), [CO](#), [CH₄](#), [VOC](#), [NH₃](#), [H₂S](#), [EtOH](#), [Smoke](#), [Odor](#), [H₂](#), [NO₂](#)), which can be combined as per specific requirements.

Please note: This sensor is capable of qualitative measurements only. For quantitative measurements, kindly consider purchasing the [Gravity: NH₃ Sensor \(Calibrated\)](#).

Precautions for use

Kindly remove the protective film before usage.

To prevent exposure to volatile silicon compounds vapors (such as silicone adhesive, hair gel, silicone rubber, or other locations where volatile silicon compounds are present).

Avoid exposure to high concentrations of corrosive gases (such as H₂S, SOX, Cl₂,

HCl, etc.).

Prevent contamination from alkalis, alkali metal salts, and halogens.

Refrain from prolonged exposure to extreme environments (such as high temperatures, high humidity, high pollution).

Avoid contact with water, condensation, and freezing.

Minimize excessive vibration, impact, and dropping.

Please refrain from employing this module in systems that involve personal safety concerns.

For extended periods of non-usage, it is advisable to preheat the module for at least 24 hours.

Applications

Ammonia leakage in cold storage

Aquaculture risk control

Toilet odor monitoring

Specification

Gas detected: Ammonia (NH₃)

Detection range: 1-300ppm

Operating voltage: 3.3-5V

Operating current: < 20mA

Output signal: Analog voltage

Sensitivity: $R_0(\text{in air})/R_s(\text{in 50ppm NH}_3) \geq 3$

Operating temperature: -10-50°C

Operating humidity: 15-90%RH (non-condensing)

Lifespan: ≥ 5 years (in air)

Dimension: 13×13 x 2.5mm/0.051×0.51×0.1"

Documents

[Product wiki](#)

[Schematics & Dimension](#)

[Characteristic Parameter](#)

[Component Packaging](#)

Shipping List

Fermion: MEMS NH3 Sensor (breakout) × 1

2.54mm pitch header pin × 1