

GSB-01

Three-Gas Industrial Monitoring Module

Simultaneous CH₄, NH₃, and H₂S monitoring — with interchangeable ARG connectivity: cellular, Wi-Fi, G3-PLC, or Modbus.

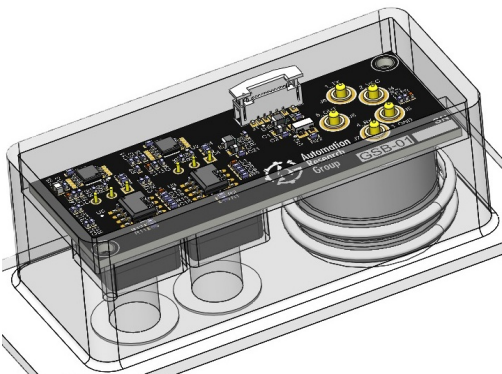


Overview

The GSB-01 combines NDIR methane sensing with solid-polymer electrochemical detection of ammonia and hydrogen sulfide on a single board. It carries any ARG comm module — cellular, Wi-Fi, G3-PLC, or Modbus — reporting over the shared ARG Host API, and drops into existing infrastructure with no new wiring. The CH₄ channel is ATEX and IECEx certified for Zone 1/2 hazardous areas.

Key Features

- Three critical industrial gases — CH₄, NH₃, H₂S — on one compact module.
- Best-in-class Amphenol SGX sensing elements; fully assembled and factory-calibrated.
- Carries any ARG comm module — cellular, Wi-Fi, G3-PLC, or Modbus — over the shared ARG Host API.
- CH₄ via NDIR (0–100% vol); NH₃ and H₂S via solid-polymer electrochemical.
- CH₄ channel ATEX and IECEx certified for Zone 1/2 hazardous areas.
- Customizable sensor complement; 4-position screw-terminal connection.



3

Gas channels

0–500 ppm

H₂S range

0–100% vol

CH₄ NDIR range

Any comm

Cellular / Wi-Fi / G3-PLC / Modbus

Technical Specifications

Parameter	Methane (CH ₄)	Ammonia (NH ₃)	Hydrogen Sulfide (H ₂ S)
Sensor	INIR2-ME100-PC	PS1-NH3-100	PS1-H2S-500
Technology	NDIR infrared	Solid-polymer electrochemical	Solid-polymer electrochemical
Measurement Range	0–100% vol. CH ₄	0–100 ppm	0–500 ppm
Resolution	10 ppm	—	1 ppm
Sensitivity	—	20 ±10 nA/ppm	90 ±20 nA/ppm
Max Overload	—	—	1000 ppm
LDL / Detectivity	100 ppm	—	≤2 ppm
T-90 Response	~19 sec	—	<30 sec
Operating Temp	–20 to +50 °C	–20 to +50 °C	–40 to +50 °C
Sensor Output	Analog + UART	Electrochemical (current)	Electrochemical (current)

Certifications	ATEX, IECEx	—	RoHS
Communications	Interchangeable ARG comm module — cellular, Wi-Fi, G3-PLC, or Modbus (shared Host API)		
Connector	4-position screw terminal		
Gas Channels	3 (CH ₄ , NH ₃ , H ₂ S) — customizable for other gas targets		
Model	GSB-01 (Model 01 — production-ready configuration)		

Applications

Safety & Leak Detection	Continuous monitoring for explosive, toxic, and asphyxiant hazards — natural-gas leaks, sewage H ₂ S, confined-space entry, OSHA PEL/IDLH logging.
HVAC & Building Automation	Air-quality and safety monitoring in building systems — parking-garage detection, mechanical-room safety, BMS integration via Modbus, demand-controlled ventilation.
Industrial Process Monitoring	Gas monitoring in process environments and utilities — chemical and pharmaceutical plants, agriculture and cold storage (NH ₃), water treatment (H ₂ S).
Agriculture & Food Processing	Monitor ammonia in livestock facilities, cold storage, and food processing. Configurable thresholds and cloud alerts for remote monitoring.