SAFEGUARD ANALYTICS
NEXT-GENERATION FIXED GAS DETECTION

PRODUCT DATA SHEET
January 2026

MODEL SA2-CH4-MEMS (METHANE)
SMART SENSOR MODULES

Model SA2-CH4-MEMS smart sensor modules are designed to detect and monitor methane in ambient air. The modules consist of a microelectromechanical systems (MEMS) gas detection sensor and a micro-processor-based signal conditioning circuit. Both are housed in a metallic enclosure fitted with gold plated connecting pins. When used with any Safeguard Analytics gas detection transmitter, no calibration is necessary, making the SA2-CH4-MEMS ready for operation when installed in any Safeguard Analytics transmitter.

- Gas Type
- Range of Sensitivity
- Serial Number
- Calibration Details
  - last zero cal date
  - last span cal date

- Calibration Level Configuration
- Alarm Point Configuration
- Environmental Data / Compensation

"The Smart Sensor Module" is factory programmed for a specific range of sensitivity. On power up, gas type, measurement range, and previous zero and span calibration data points are read by the transmitter, facilitating a fully automated startup. When used with any Safeguard Analytics gas detection transmitter, calibration may be performed on site or remotely, and the module transported to the point of installation pre-calibrated and ready for operation.

SPECIFICATIONS[1]

Sensor Technology	MEMS
Detection Method	Diffusion
Sensitivity Options	50 ppm to 50,000 ppm
Resolution	1 ppm
Response Time	T50 less than 10s, T90 less than 30s
Accuracy	±10% above 300 ppm

Input Voltage (Direct)	3.3 VDC
Power Consumption	< 50 milliwatts
Signal Output	I2C Protocol
Temperature Range	-40 °C to +70 °C
Humidity Range	0% to 99% non-condensing
Pressure Range	1 atmosphere ± 0.1 atm
Warranty	5 Years

[1] *Specifications subject to change without notice.*

[2] *For most accurate bump test results, use a gas mixture consisting of 1% methane with real air (1% methane, 20% oxygen, 0.9% argon, 0.04% CO2, balance nitrogen 78.06%).*

ORDER GUIDE

Model SA2-CH4-MEMS-50K	50-50,000 ppm (50 ppm MDL)