

Model SA2

Smart Sensor Modules

Toxics - Oxygen Deficiency - Combustibles - VOCs - Refrigerants

Model SA2 smart gas sensor modules consist of a gas detection sensor and a micro-processor-based signal conditioning circuit featuring advanced detector analytics. The “Smart Sensor Module” is available in various technologies that cover a wide range of safety and environmental monitoring applications. Each module is factory programmed for a specific gas type and range of sensitivity. They are housed in an RFI/EMI resistant metallic enclosure and are fitted with large surface area gold plated pins. Signal output is a uniform I2C register map for all available sensor technologies enabling OEM standardization and easy integration to meet a wide range gas sensing applications.



Standard Features:

- Power input 3.3 VDC
- Power consumption 7mW to 1.2W (sensor dependent)
- Low power consumption for battery and solar applications
- Standard I2C slave output for all technologies
- Metallic housing for RFI/EMI protection
- Small form factor (40mm x 40mm x 22mm)

Typical Applications:

Environmental and Safety Monitoring
Water and Wastewater Treatment Plants
Chemical and Petrochemical Plants
Construction and Reclamation Sites
Oil & Gas Production Sites
Mining Industry
Agriculture
Landfills

Key Data Points

- Gas Type
- Range of Sensitivity
- Calibration Date
 - Last Zero Cal
 - Last Span Cal
- Calibration Level Configuration
- Alarm Point Configuration
- Response Factor (PID- HC)
- Environmental / Compensation
- Serial Number

Standard Gases:

Br2 (Bromine)	HCL (Hydrogen Chloride)
C2H4 (Ethylene)	HCN (Hydrogen Cyanide)
C2H4O (Ethylene Oxide)	LEL (Combustible Gases)
C2H6O (Alcohol)	NH3 (Ammonia)
C3H8 (Propane)	NO (Nitric Oxide)
CH4 (Methane)	NO2 (Nitrogen Dioxide)
CH2O (Formaldehyde)	O2 (Oxygen)
CH3OH (Methanol)	O3 (Ozone)
CL2 (Chlorine)	PH3 (Phosphine)
CO (Carbon Monoxide)	R32 (Refrigerant)
CO2 (Carbon Dioxide)	SO2 (Sulfur Dioxide)
H2 (Hydrogen)	VOC (Volatile Organic Compounds)
H2S (Hydrogen Sulfide)	

Contact Safeguard Analytics for additional gases configurations.

Safeguard Analytics

4200 Research Forest Dr, Ste 250
 The Woodlands, TX 77381 USA
 Phone: (936) 342-2300

March 2025

© Safeguard Analytics 2025

Questions about SA2 Smart Sensors?



www.safeguardanalytics.com