Features – Functions - Benefits
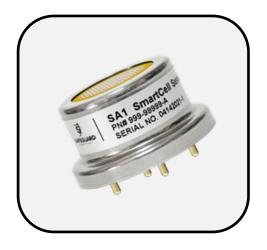
- **Gas Sensor Options**
  - Toxics - Oxygen - Combustibles - VOCs - Refrigerants
- **High Visibility Color Graphic HMI**
- **Smart System Auto Config Capable**
- **User Interface via Magnet and Panel Switches**
- **Embedded Alarm and Calibration Data Logger**
- **Connectivity Options**
  - Wired RS-485 MODBUS RTU 9600 bps
  - Wireless Non licensed 915 MHz
  - Wireless LoRa WAN 915 MHz
- **NEMA 4X Weatherproof Enclosure**

Description

Model SA-2N4 gas detection systems are designed to detect and monitor toxic, oxygen and combustible gases in ambient air. Sampling is via diffusion. The design features compatibility with a full range of conventional sensor technologies; catalytic Pellisitors, electrochemical sensors, photo ionization detectors, non-dispersive infrared, a multi spectrum combustible gas detection sensor and MOS refrigerant gas detectors. Specific gas type is determined by installing one or two selected Model SA1 smart sensor modules. Each sensor module stores gas type, range of sensitivity and the last zero and span calibration data points.

All electronics are contained within a NEMA 4X weatherproof enclosure suitable for installation in both indoor and outdoor locations. Model SA-2N4 gas detectors feature non-intrusive calibration using a small magnet. The color graphic display provides simple and intuitive user interface with real time readings and full script service instructions. Device status is readily determined by screen color; green normal - no alarm condition, amber alarm level 1, red alarm level 2 and blue indicates a fault condition.

Smart Sensor Modules

Toxics - Oxygen - Combustibles - VOCs - Refrigerants

Model SA1 smart sensor modules are designed to detect and monitor various gases in ambient air. The modules consist of a target specific gas detection sensor and a microprocessor-based signal conditioning circuit. Both are housed in a metallic enclosure fitted with gold plated connecting pins. The "Smart Sensor Module" is factory programmed for a specific gas and range of sensitivity. On power up the gas type, measurement range previous zero and span calibration data points and last calibration date are read by the transmitter facilitating a fully automated startup. The modules can be used with any of Safeguard Analytics gas detection transmitters.

Model SA-2N4 Specifications*

System

Detector Type	Electrochemical Toxics and Oxygen
	Catalytic Pellistor Combustible Gas
	Photo Ionization Volatile Organic Compounds
	NDIR Hydrocarbons and Carbon Dioxide
	MPS™** Spectrometry Combustible Gases
	Metal Oxide Semi-Conductor Refrigerants
Detection Method	Diffusion
Indicators	Local Color Graphic Digital Display
	Green Normal Operation No Alarm
	Amber Alarm Level 1
	Red Alarm Level 2
	Blue Fault Condition
User Interface	Magnetic Wand and Panel Switches
Warranty	2 Years

* Specifications subject to change without notice

Electrical

Input Voltage Range	90 - 240 VAC 50/60 Hz
	10-30 VDC (nominal 24 VDC)
Power Consumption	2.5 to 3 watts
	(*Smart sensor dependent*)
Optional Outputs	MODBUS RTU 960 bps
Alarm Relays	Level 1, Level 2, Fault
	Form C5A Contacts C-NO-NC
	Latching—Non Latching

Area Classification

Non-hazardous areas	NEMA 4X Weatherproof

Environmental (Smart sensor dependent)

Temperature Range	-40°F to +140°F, -40°C to +60°C
Humidity Range	15% to 95% Non-Condensing

Mechanical

Dimensions	*8.0" W, 8.0" H, 4.0" D*
	203mm W, 203mm H, 101mm D

** MPS is a Nevada Nano registered trademark

Model SA1 Smart Sensor Modules (Partial List) *

Gas Type	Model No	Range	Gas Type	Model No	Range
Combustible Gas	SA1-CPS	0-100% LEL	Ethylene	SA1-C2H4-100	0-100 ppm
Combustible Gas	SA1-MPS	0-100% LEL	Ethylene Oxide	SA1-C2H4O-20	0-20.0 ppm
Combustible HC	SA1-CH4-LEL	0-100% LEL	Fluorine	SA1-F2-1	0-1.00 ppm
Combustible HC	SA1-CH4-PPM	0-5000 ppm	Formaldehyde	SA1-CH2O-100	0-100 ppm
Oxygen Depletion	SA1-O2-EC	0-25.0%	Formic Acid	SA1-H2CO2-10	0-10.0 ppm
VOCs - PID	SA1-PID-2	0-2.00 ppm	Hydrogen	SA1-H2-100	0-100 ppm
VOCs - PID	SA1-PID-20	0-20.00 ppm	Hydrogen Chloride	SA1-HCL-30	0-30.0 ppm
VOCs - PID	SA1-PID-50	0-50.0 ppm	Hydrogen Cyanide	SA1-HCN-30	0-30.0 ppm
Carbon Dioxide	SA1-CO2-1K	0-1000 ppm	Hydrogen Fluoride	SA1-HF-10	0-10.0 ppm
Carbon Dioxide	SA1-CO2-30K	0-3.00%	Hydrogen Peroxide	SA1-H2O2-100	0-100 ppm
Carbon Dioxide	SA1-CO2-50K	0-5.00%	Hydrogen Sulfide	SA1-H2S-100	0-100 ppm
Acetylene	SA1-C2H2-100	0-100 ppm	Methyl Alcohol	SA1-CH3OH-100	0-100 ppm
Alcohol	SA1-C2H6O-100	0-100 ppm	Methyl Mercaptan	SA1-CH3SH-100	0-100 ppm
Ammonia	SA1-NH3-100	0-100 ppm	Nitric Oxide	SA1-NO-100	0-100 ppm
Arsine	SA1-AsH3-1	0-1.00 ppm	Nitrogen Dioxide	SA1-NO2-30	0-30.0 ppm
Bromine	SA1-Br2-20	0-20.0 ppm	Ozone Gas	SA1-O3-1	0-1.00 ppm
Carbon Disulfide	SA1-CS2-100	0-100 ppm	Phosgene	SA1-COCL2-1	0-1.00 ppm
Carbon Monoxide	SA1-CO-200	0-200 ppm	Phosphine	SA1-PH3-5	0-5.00 ppm
Chlorine	SA1-Cl2-10	0-10.0 ppm	Silane	SA1-SIH4-50	0-50.0 ppm
Chlorine Dioxide	SA1-ClO2-100	0-100 ppm	Sulfur Dioxide	SA1-SO2-20	0-20.0 ppm
Diobrane	SA1-B2H6-1	0-1.00 ppm	A2L Refrigerants	SA1-A2L-2.5K	0-2500 ppm
Ethanol	SA1-C2H6O-100	0-100 ppm	A3 Refrigerants	SA1-A3-2.5K	0-2500 ppm

*Contact the factory for additional gases and ranges of sensitivity

SAFEGUARD
A N A L Y T I C S

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