



Features – Functions - Benefits

- Toxics - Oxygen - Combustibles
VOCs - Refrigerants -
- NEMA 4X Weather Proof Enclosure
- High Visibility Color Graphic HMI
- User Interface via Magnet
or Bluetooth® and OpCheck® APP
- Intuitive Full Script Operator Interface
- Optional Outputs
 - Analog 4-20 mA DC
 - Modbus RTU 9600 bps
 - Local Alarm Relays

Description

Model SA-1N4 gas detection sensors are designed to detect and monitor toxic, oxygen and combustible gases in ambient air. Sampling is via diffusion. The design features a full range of sensor technologies; electrochemical sensors, photo ionization detectors, non-dispersed infrared and a multi spectrum combustible gas detection sensor. Specific gas type is determined by installing a selected Model SA1 smartsensor module. Each sensor module stores gas type, range of sensitivity and the last zero and span calibration data points.

All electronics are mounted in a NEMA 4X weather proof enclosure suitable for installation in non-hazardous locations. Model SA-1N4 gas detectors feature non-intrusive calibration using a small magnet or an Android™ phone or tablet and the Safeguard OpCheck application. 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, yellow alarm level 1, red alarm level 2 and blue indicates a fault condition.

OpCheck

OpCheck is an embedded Bluetooth application that combines continuous supervision of the gas sensor element and associated circuits then adds analysis of performance data during routine calibration to create a high level of safety and reliability in every Safeguard Analytics gas detection sensor. OpCheck is accessed using an Android phone or tablet. Use the application to generate service reports in single device or site wide formats then upload via text or email.

Faults Monitored

Detector • Input Voltage • Zero Drift • Signal Loop • Processor Memory

Performance Diagnostics

Zero Stability • Span Drift • Response Time • Signal Stability • Sensor Life • Clearing

Model SA-1N4 Specifications*

System

Detector Type	Electrochemical toxics and oxygen Catalytic Pellistor combustible gas Photo ionization volatile organic compounds NDIR hydrocarbons and carbon dioxide MPS ^{TM**} 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
Performance	Zero stability, Response time, Span drift
Diagnostics	Signal stability, Sensor life
User Interface	Magnetic wand, OpCheck Bluetooth app
Warranty	2 years

Electrical

Input Voltage Range	10-30 VDC (nominal 24 VDC)
Power Consumption	2.5 to 3 watts <i>Smart sensor dependent</i>
Standard Output	Linear 4-20 ma DC
Optional Outputs	MODBUS RTU 960 bps Alarm relays Form C 2 amp Level 1, Level 2, Fault

Area Classification

Non-Hazardous	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	5.5" W, 5.25" H, 3.75" D 140mm W, 134mm H, 95mm D
Weight	

* Specifications subject to change without notice

** MPS is a registered trademark of Nevada Nano

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



Phone: 936-342-2300

Email: sales@safeguardanalytics.com

www.safeguardanalytics.com