



### Description

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 and previous zero and span calibration data points are read by the transmitter facilitating a fully automated startup. The modules can be used with any of Safeguard Analytics gas detection transmitters.

### Specification Model SA1-CH4-LEL

Detector Type	Non-dispersed Infrared (NDIR)
Detection Method	Diffusion
Range of Sensitivity**	0-100% LEL Methane
Response Time	T90 ≤ 30s
Accuracy	± 3% FS to 50% of FS, ± 5%FS > 50% FS
Zero Drift	< 2% FS per year (In clean air)
Span Drift	< 2% FS per year (In clean air)
Temperature Range	-30°C to +60°C; -22F to 140°F
Humidity Range	0% to 95% RH non-condensing
Pressure Range	1 atm ±.1
Input Power	~ 3.5 to 5 VDC
Power Consumption	< 300 milliwatts
Detector Life Expectancy	> 5 years
Detector Warranty	5 years

\*Specifications subject to change without notice

### \*\*Range of Sensitivity Options

Range	Model No	Range	Model No
0-5000 ppm CH4	Model SA1-CH4-PPM	0-100 % LEL CH4	Model SA1-CH4-LEL
0-100 % LEL HC	Model SA1-HC-LEL	0-100 % VOL CH4	Model SA1-CH4-100v

Contact Safeguard Analytics for additional ranges of sensitivity

### Detectable Hydrocarbon Gases (Partial List)

Gas Type	Model	Gas Type	Model	Gas Type	Model
Acetic Acid	SA1-CH3COOH	Ethane	SA1-C2H6	n-Nonane	SA1-C9H20
Acetone	SA1-C3H6O	Ethylene	SA1-C2H4	n-Octane	SA1-C8H18
Benzene	SA1-C6H6	Ethyl Benzene	SA1-C6H5C2H5	n-Pentane	SA1-C5H12
n-Butane	SA1-C4H10	Ethylene Oxide	SA1-C2H4O	Propane	SA1-C3H6
Cyclohexane	SA1-C6H12	Gasoline	SA1-Gasoline	Iso-Propyl Alcohol	SA1-C3H8O
Cyclopentane	SA1-C5H10	n-Heptane	SA1-C7H16	Propylene	SA1-CEH6
Cyclopropane	SA1-C3H6	n-Hexane	SA1-C6H14	Toluene	SA1-C7H8
Decane	SA1-C10H22	Methane	SA1-CH4	Vinyl Acetate	SA1-C4H6O2
Diesel	SA1-C12H23	Methanol	SA1-CH3OH	Xylene	SA1-C8H10

Contact Safeguard Analytics for calibration options and combustible hydrocarbon gas response factors.