

## AreaRAE Gamma

### Wireless, Multi-channel, Compact and Easily Transportable Multi-gas and Radiation Monitor

The AreaRAE Gamma is a combination multi-gas and radiation detector equipped with a wireless, RF (radio-frequency) modem that allows the unit to communicate and transmit sensor and other information in real-time to a remotely located base controller. This rugged, weather resistant area monitor is portable and can operate up to 18 hours on rechargeable Lithium-ion cells or optional alkaline batteries. It is also the first “lunch box” type multiple sensor instrument able to include a gamma radiation detector, a photo-ionization detector (PID) for parts-per-million measurement of volatile organic compounds (VOCs), as well as an LEL combustible gas sensor, oxygen sensor, and a selectable electrochemical toxic sensor. A personal computer can be used as the base station. The standard ProRAE Remote software used to control AreaRAE Gamma systems is capable of monitoring the input of up to 64 remotely located monitor.

#### Key Features

- ▶ Up to four gas sensors (PID, LEL, O<sub>2</sub> and selectable toxic gas)
- ▶ One radiation sensor (Gamma)
- ▶ Loud buzzer and large, extra-bright warning light
- ▶ Large LCD display and keypad
- ▶ Rugged, weather-resistant housing
- ▶ Built-in sampling pump
- ▶ Interchangeable Lithium-ion or alkaline battery pack
- ▶ Continuous operation via AC source



#### Additional Features

- ▶ Real-time wireless data transmission with built-in RF modem
- ▶ View real-time sensor data and alarm status at headquarters or command center
- ▶ Optional GPS provides ability to track and display readings from remote detectors
- ▶ License-free, ISM-band RF transmission with communication range up to 2 miles away
- ▶ Fully hardware and software compatible with standard AreaRAE (PGM-5020) 5-gas monitoring system
- ▶ Standard AreaRAE (PGM-5020) is factory upgradable to AreaRAE

## AreaRAE Gamma

### Specifications

Detector Size .....	9.25" L x 5.0" W x 9.25" D 235mm L x 127mm W x 235mm D, without handle
Weight Sensors.....	8.5 lbs. (3.9 kg) with battery pack Up to five: PID, LEL, Gamma, two selectable toxics; or PID, LEL Gamma, O <sub>2</sub> , and one selectable toxic)
Operating Hours.....	Up to 18 hours continuous operation
Display	2-line, 16-digit LCD with manually activated LED back light
Keypads Direct .....	3 operation and 4 programming keys
Readout	Instantaneous values, sensor name, high TWA and STEL values for toxic and low values for all detectors, gases and VOCs, battery voltage and elapsed time
Alarm.....	Flashing red LED cluster to indicate exceeded preset limits, low battery or sensor failure
Data logging .....	4,000 points for each sensor with time stamp, serial number, user ID, site ID
Data Storage .....	20,000 readings (64 hours, 5 channels at 1-minute intervals) in non-volatile memory
Data log Interval .....	Programmable 1 to 3600 sec
Communication	Upload data to PC and Download monitor setup from PC through RS-232 link to serial port on PC
EM Immunity .....	No effect when exposed to 0.43 mW/cm <sup>2</sup> RF interference (5-watt transmitter at 12 inches)
Safety .....	CSA Classified for use in Class I, Division 2,
Certification .....	Groups A, B, C, and D (w/ 900 MHz modem)
Frequency.....	902 to 928 MHz (License-free)
RF Range	Up to 2 miles (900 MHz) - extendable with RAELink Repeaters
Calibration.....	Two-point field calibration for fresh air and standard reference gas

Sampling Pump .....	Internal integrated diaphragm pump with programmable High (400cc/min) and Low (300cc/min) flow rate settings
Low Flow Alarm .....	Auto shut off pump at low flow condition
Temperature .....	-4° to 113°F (-20° to 45°C)
Humidity	0% to 95% relative humidity (non-condensing)
Optional.....	Integrated GPS receiver

### Sensor

Radiation .....	gamma
DER Range .....	1 to 4000 µR/h, 0.01 to 40 µSv/h
Energy Range .....	0.060 to 3.0 MeV
Sensitivity.....	>100 cps /µSv/hr

GAS MONITOR	RANGE	RESOLUTION
Oxygen	0 to 30.0%	0.1%
Combustible	1 to 100% LEL	1.0% LEL
VOCs	0 to 199 ppm 200 to 2,000 ppm	0.1 ppm 1.0 ppm
Carbon Monoxide	0 to 500 ppm 10 to 2000 ppm	1.0 ppm 10.0 ppm
Hydrogen Sulfide	0 to 100 ppm	1.0 ppm
Sulfur Dioxide	0 to 20.0 ppm	0.1 ppm
Nitric Oxide	0 to 250 ppm	1.0 ppm
Nitrogen Dioxide	0 to 20.0 ppm	0.1 ppm
Chlorine	0 to 10.0 ppm	0.1 ppm
Hydrogen Cyanide	0 to 100 ppm	1.0 ppm
Ammonia	0 to 50 ppm	1.0 ppm
Phosphine	0 to 5.0 ppm	0.1 ppm
Hydrogen Chloride	2 to 15 ppm	1.0 ppm
Hydrogen Fluoride	2 to 10 ppm	1.0 ppm

\*Specifications are subject to change