



# SentryRAE

## Multi-channel, Compact, and Easily Transportable Multi Gas Monitor

The SentryRAE is the first “lunchbox”-sized, portable, pumped monitor to combine a PID (Photoionization Detector) and standard four gas confined space monitor (O<sub>2</sub>, LEL, and two toxic gas sensors) in one product that can run over 24 hours on either rechargeable Lithium-ion or alkaline batteries.

The SentryRAE detector is designed for use in circumstances where it is advantageous for the customer to leave the detector in a central location and provide monitoring information for a group of workers. The extra-bright, cluster LED alarm-light, large display, and very loud audible alarm convey readings and alarm state information over a substantially wider area than typical personal portable detectors.

### Key Features

- **O<sub>2</sub>, LEL, PID and any two plug-in “smart” toxic sensors: CO, H<sub>2</sub>S, SO<sub>2</sub>, NO, NO<sub>2</sub>, Cl<sub>2</sub>, HCN, NH<sub>3</sub>, PH<sub>3</sub>**
- **0-2,000 ppm measurement of VOCs** (volatile organic compounds) with 0.1 ppm resolution
- **Measure more chemicals than with any other PID**  
With over 60 Correction Factors built into the SentryRAE memory and the largest printed list of Correction Factors in the world (300+), RAE Systems offers the ability to accurately measure more ionizable chemicals than any other PID!
- **User friendly**  
Easy to use for simple applications and flexible enough for sophisticated options

### • Drop-in battery

When work schedules require putting in more than the 36 hours supplied by the advanced Lithium-ion (Li-ion) battery, the drop-in alkaline pack supplied with every SentryRAE lets you finish the job.

### • Strong, built-in sampling pump

Draws up to 100 feet (30 meters) horizontally or vertically. External filter and automatic low flow alarm protect the SentryRAE from damage.

### • Large keys

Operable even with 3 layers of gloves

### • Big, easy-to-read display with backlight

### • Store up to 80 hours of data

Data collected at one minute interval from all 5 sensors for download to PC with the datalogging option.

### • Loud audible alarm and extra-bright light

Alarm varies for different alarm conditions

### • Rugged, weather-resistant housing

### Applications

- HazMat and Emergency Response
- Refineries and Petrochemical Plants
- Confined Space Entry
- Power Plants
- Pulp and Paper Industry
- Plant and Mill Turnarounds
- Marine and offshore wells



rev.03\_06.04

[www.raesystems.com](http://www.raesystems.com)



# SentryRAE

## Specifications\*

### Sensor Specifications

Sensor	Range	Resolution
Oxygen	0-30%	0.1%
Combustible	1-100% LEL	1% LEL
VOCs	0-200.0 ppm	0.1 ppm
	200-2,000 ppm	1 ppm
Carbon Monoxide	0-500 ppm	1 ppm
Hydrogen Sulfide	0-100 ppm	1 ppm
Sulfur Dioxide	0-20.0 ppm	0.1 ppm
Nitric Oxide	0-250 ppm	1 ppm
Nitrogen Dioxide	0-20.0 ppm	0.1 ppm
Chlorine	0-10.0 ppm	0.1 ppm
Hydrogen Cyanide	0-100 ppm	1 ppm
Ammonia	0-50 ppm	1 ppm
Phosphine	0-5.0 ppm	0.1 ppm

### Detector Specifications

<b>Size</b>	9.25"L x 5.0"W x 9.25"H (without handle) (23.5 x 13.0 x 23.5 cm)
<b>Weight</b>	8 lbs. (3.6 kg) with battery pack
<b>Sensors</b>	Up to 5 sensors including: <ul style="list-style-type: none"> <li>Protected catalytic bead for combustible gases</li> <li>Interchangeable electrochemical sensors for oxygen and toxic gases</li> <li>Photoionization detector for VOCs, 10.6 eV lamp standard</li> </ul>
<b>Battery</b>	Rechargeable, 7.4V/4.5Ah, Lithium-ion battery pack with built in charger (less than 10 hours charge time) or a 6 C-cell alkaline battery pack
<b>Operating Hours</b>	<ul style="list-style-type: none"> <li>Up to 36 hrs. continuous operation (typical)</li> <li>Unit will run and charge simultaneously</li> </ul>
<b>Display</b>	2 line, 16 digit LCD
<b>Keypads</b>	1 operation and 2 programming keys
<b>Direct Readout</b>	Instantaneous (up to 5) values: <ul style="list-style-type: none"> <li>Oxygen as percentage by volume</li> <li>Combustible gas as percentage of lower explosive limit (LEL)</li> <li>Toxic gases and VOCs as parts per million by volume (VOC scaleable using correction factors)</li> <li>High and low values for all gases</li> <li>STEL and TWA values of toxic gases and VOCs</li> <li>Battery and shut down voltage</li> <li>Date, time, elapsed time, temperature</li> </ul>
<b>Alarm</b>	100 dB buzzer (at 10 cm) and flashing red LED to indicate exceeded preset limits <ul style="list-style-type: none"> <li>High: 3 beeps and flashes per second</li> <li>Low: 2 beeps and flashes per second</li> <li>STEL and TWA: 1 beep and flash per second</li> <li>Alarms automatic reset or latching with manual override</li> <li>Additional diagnostic alarm and display message for low battery and pump stall</li> </ul>
<b>Datalogging</b>	Optional 20,000 points (80 hours, 5 channels at one minute intervals) download to PC with serial number of unit, user ID, site number, calibration date
<b>Communication</b>	Upload to PC and download monitor setup from PC through RS-232 link to serial port on PC
<b>Calibration</b>	Two-point field calibration for fresh air and standard reference gas
<b>Sampling Pump</b>	Internal integrated diaphragm pump with program mable flow rate settings: High: ~400 cc/min, Low: ~300 cc/min
<b>Low Flow Alarm</b>	Auto shut-off pump at low flow condition

rev.03\_06.04

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### Detector Specifications (continued)

<b>Hazardous Area Approval</b>	UL Classified for use in Class I, Division I, Groups A, B, C and D, Class II Groups E, F, G Hazardous Locations, Temp Code T3C
<b>Temperature</b>	-4° to 113°F (-20° to 45°C)
<b>Humidity</b>	0% to 95% relative humidity (non-condensing)
<b>Attachment</b>	Shoulder strap, optional tripod/wall mounting bracket
<b>Warranty</b>	Lifetime on non-consuming components (per RAE Standard Warranty), 2 years for O <sub>2</sub> , LEL, CO and H <sub>2</sub> S sensors, 1 year for all other sensors, 1 year for the pump, 1 year for the battery, 1 year for the 10.6eV PID lamp

\*Specifications are subject to change

### SentryRAE Accessories

#### Monitor only includes:

- Sensors as specified
- Calibration adapter
- Quick reference guide
- Operation and maintenance manual
- Shoulder strap
- Rechargeable Lithium-ion battery pack
- 120/240 V AC/DC adapter (if specified)
- Spare alkaline battery pack
- External filter adapter
- 3 external filters
- Hard transport case with pre-cut foam
- 15 feet (5 meters) Teflon® tubing
- Tool kit

#### Monitor with calibration kit also includes:

- Calibration gas (kit may include multiple cylinders depending on the sensors installed)
- Calibration regulator and tubing (kit may contain a second regulator depending on the types of calibration gases included)
- Hard transport case with pre-cut foam

#### Datalogging monitors also include:

- Software ProRAE Suite Package for Windows 98, NT, 2000 and XP
- Computer interface cable

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