



# MultiRAE IR

## One-to-Five Gas Monitor

### One-to-Five Gas Monitor with CO<sub>2</sub> & VOC Detection

The **MultiRAE IR** combines a PID (Photoionization Detector) and Carbon Dioxide (CO<sub>2</sub>) sensor with O<sub>2</sub>, LEL, and one specific toxic gas sensor in a compact monitor with sampling pump. The **MultiRAE IR**'s versatility allows it to replace a wide range of monitors, saving training and maintenance costs. The **MultiRAE IR** is quickly and easily changed from a sophisticated technician instrument to a simple text- or display-only monitor. The same monitor can be used as a personal monitor, a hand-held sniffer or as a continuous, operational area monitor for use in such applications as indoor air quality and industrial hygiene.

#### Key Features

- O<sub>2</sub>, LEL, PID, CO<sub>2</sub> and one plug-in "smart" toxic sensor: 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>
- 0-20,000 ppm measurement of CO<sub>2</sub> using our patented non-dispersive infrared (NDIR) sensor
- 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 **MultiRAE IR** 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!
- Drop-in Battery: when work schedules require putting in more than the 12 hours supplied by the advanced Lithium-ion (Li-ion) battery, the drop-in alkaline pack supplied with every **MultiRAE IR** allows you to finish the job.
- User friendly screens make it easy to use for simple applications and flexible enough for sophisticated options.

- Rugged Rubber Boot: the standard rubber boot helps assure that the **MultiRAE IR** survives the bumps and knocks of tough field use.
- Strong, built-in sample pump draws up to 100 feet (30 meters) horizontally or vertically. External filter and automatic low flow alarm protect the **MultiRAE IR** from damage.
- Large keys operable with 3 layers of gloves
- Easy-to-read display with backlight
- Store up to 80 hours of data at one minute interval for all 5 sensors for download to PC with built-in datalogging.
- Loud audible alarm that varies for different alarm conditions and an optional external vibration alarm for noisy areas

#### Applications

- Indoor Air Quality
- Beverage and Brewery
- Food Industry
- Hospitals
- Respirable Breathing-Air Testing



## Specifications\*

### Sensor Specifications

Gas Monitor	Range	Resolution
Carbon Dioxide	0 - 20,000 ppm	10 ppm
Oxygen	0 - 30.0%	0.1%
Combustible gas	0 - 100% LEL	1%
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>	4.6"L x 3.0"W x 1.9"H (12 x 7.6 x 4.8 cm)
<b>Weight</b>	16 oz with battery (454g)
<b>Sensors</b>	<ul style="list-style-type: none"> <li>• Up to 5 sensors including non-dispersive infrared sensor for CO<sub>2</sub></li> <li>• Protected catalytic bead for combustible gas</li> <li>• Interchangeable electrochemical sensors for oxygen and toxic gases</li> <li>• Photoionization detector for VOCs (10.6 eV, 9.8 eV and 11.7 eV lamps)</li> </ul>
<b>Battery</b>	Interchangeable Li-ion and alkaline battery packs; Rechargeable units include Lithium-ion battery pack with internal smart charging, 120V AC/DC wall adapter, and spare alkaline battery pack
<b>Operating Hours</b>	<ul style="list-style-type: none"> <li>• 12 hours continuous operation</li> <li>• Unit will run and charge simultaneously</li> </ul>
<b>Display</b>	2 line, 16 digit LCD with LED back light automatically in dim light or alarm condition
<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 gas, VOC and CO<sub>2</sub> as parts per million by volume</li> <li>• High and low values for all gases</li> <li>• STEL and TWA values of toxic gas, VOC and CO<sub>2</sub></li> <li>• Battery and shut-down voltage</li> <li>• Date, time, elapsed time, temperature</li> <li>• LEL/VOC scale (using Correction Factors)</li> </ul>
<b>Alarm</b>	90 dB buzzer 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 automatically 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>	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>Calibration</b>	Two-point field calibration for zero and span gas
<b>Sampling Pump</b>	Internal pump with user selectable flow rate: High: ~250 cc/min, Low: ~150 cc/min

### Detector Specifications (continued)

<b>Temperature</b>	-4° to 113°F (-20° to 45°C)
<b>Humidity</b>	0% to 95% relative humidity (non-condensing)
<b>Attachments</b>	Wrist strap and high visibility rubber boot
<b>Warranty</b>	Lifetime on non-consuming components (per RAE Systems Standard Warranty), 2 years for CO <sub>2</sub> , O <sub>2</sub> , LEL, CO and H <sub>2</sub> S sensors, 1 year all other sensors, 1 year pump, 1 year battery, 1 year for 10.6 eV PID lamp

\*Ongoing projects to enhance our products mean that these specifications are subject to change

### Monitor Only Includes:

- Sensors as specified
- Datalogging
  - ProRAE Suite for Windows 98, NT, 2000 and XP
  - Computer interface cable
- Calibration adapter
- Quick reference guide
- Operation and maintenance manual
- Rubber boot with belt clip
- Rechargeable Lithium-ion battery pack
- 120 / 230 V AC/DC wall adapter (if specified)
- Alkaline battery adapter
- External filters
- 3-inch inlet probe
- External filter adapter

### Monitor with accessories kit also includes:

- Hard transport case with pre-cut foam
- 15 feet (5 meters) Teflon™ tubing
- Tool kit

### Optional calibration kit also includes:

- Four gas mix in a 34L cylinder (CH<sub>4</sub> 50% LEL, 20.9% O<sub>2</sub>, 50 ppm CO, 5000 ppm CO<sub>2</sub>, balance N<sub>2</sub>)
- Isobutylene gas in a 34L cylinder (for units with PID)
  - Calibration Regulator (male) and tubing
  - *Note: Must have zero air for non-PID units*

### DISTRIBUTED BY:

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