



MultiRAE IR

One-to-Five Gas Monitor

One-to-Five Gas Monitor with CO₂ & VOC Detection

The **MultiRAE IR** combines a PID (Photoionization Detector) and Carbon Dioxide (CO₂) sensor with O₂, 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

- O₂, LEL, PID, CO₂ and one plug-in "smart" toxic sensor: CO, H₂S, SO₂, NO, NO₂, Cl₂, HCN, NH₃, PH₃
- 0-20,000 ppm measurement of CO₂ 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

Size	4.6"L x 3.0"W x 1.9"H (12 x 7.6 x 4.8 cm)
Weight	16 oz with battery (454g)
Sensors	<ul style="list-style-type: none"> Up to 5 sensors including non-dispersive infrared sensor for CO₂ Protected catalytic bead for combustible gas Interchangeable electrochemical sensors for oxygen and toxic gases Photoionization detector for VOCs (10.6 eV, 9.8 eV and 11.7 eV lamps)
Battery	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
Operating Hours	<ul style="list-style-type: none"> 12 hours continuous operation Unit will run and charge simultaneously
Display	2 line, 16 digit LCD with LED back light automatically in dim light or alarm condition
Keypads	1 operation and 2 programming keys
Direct Readout	Instantaneous (up to 5) values: <ul style="list-style-type: none"> Oxygen as percentage by volume Combustible gas as percentage of lower explosive limit (LEL) Toxic gas, VOC and CO₂ as parts per million by volume High and low values for all gases STEL and TWA values of toxic gas, VOC and CO₂ Battery and shut-down voltage Date, time, elapsed time, temperature LEL/VOC scale (using Correction Factors)
Alarm	90 dB buzzer and flashing red LED to indicate exceeded preset limits <ul style="list-style-type: none"> High: 3 beeps and flashes per second Low: 2 beeps and flashes per second STEL and TWA: 1 beep and flash per second Alarms automatically reset or latching with manual override Additional diagnostic alarm and display message for low battery and pump stall
Datalogging	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
Calibration	Two-point field calibration for zero and span gas
Sampling Pump	Internal pump with user selectable flow rate: High: ~250 cc/min, Low: ~150 cc/min

Detector Specifications (continued)

Temperature	-4° to 113°F (-20° to 45°C)
Humidity	0% to 95% relative humidity (non-condensing)
Attachments	Wrist strap and high visibility rubber boot
Warranty	Lifetime on non-consuming components (per RAE Systems Standard Warranty), 2 years for CO ₂ , O ₂ , LEL, CO and H ₂ 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 (CH₄ 50% LEL, 20.9% O₂, 50 ppm CO, 5000 ppm CO₂, balance N₂)
- Isobutylene gas in a 34L cylinder (for units with PID)
 - Calibration Regulator (male) and tubing
 - *Note: Must have zero air for non-PID units*

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