MultiRAE IR

One-to-Five Gas Monitor

One-to-Five Gas Monitor with CO_2 & VOC Detection

The MultiRAE IR combines a PID (Photoionization Detector) and Carbon Dioxide (CO_2) sensor with O_2, 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_2, LEL, PID, CO_2 and one plug-in "smart" toxic sensor: CO, H_2S, SO_2, NO, NO_2, Cl_2, HCN, NH_3, PH_3

- 0-20,000 ppm measurement of CO_2 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

UL CE CSA ISO 9001 CERTIFIED

RAE SYSTEMS

Specifications*

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	• Up to 5 sensors including non-dispersive infrared sensor for CO_2 • 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	• 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: • Oxygen as percentage by volume • Combustible gas as percentage of lower explosive limit (LEL) • Toxic gas, VOC and CO_2 as parts per million by volume • High and low values for all gases • STEL and TWA values of toxic gas, VOC and CO_2 • 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 • 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
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_2S sensors, 1 year all other sensors, 1 year pump, 1 year battery, 1 year for 10.6 eV PID lamp

*Specifications are subject to change

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

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_4 50% LEL, 20.9% O_2, 50 ppm CO, 5000 ppm CO_2, balance N_2)
• Isobutylene gas in a 34L cylinder (for units with PID)
• Calibration Regulator (male) and tubing
• Note: Must have zero air for non-PID units
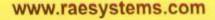
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