



# MultiRAE Plus

## One-to-Five Gas Monitor with VOC Detection

The MultiRAE Plus combines a PID (Photoionization Detector) with the standard four gases of a confined space monitor (O<sub>2</sub>, LEL, and two toxic gas sensors) in one compact monitor with sampling pump. Like the Leatherman™ tool, the MultiRAE Plus gets the job done in more circumstances than any other gas detector. With more than 10,000 units in the field today, its versatility makes it the gas meter of choice for some of the highest profile HazMat/WMD teams in the United States. The MultiRAE Plus is quickly and easily changed from a sophisticated technician instrument to a simple text-only monitor. The same monitor can be used as a personal monitor, a hand-held sniffer or as a continuous-operation area monitor.

### 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>2</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 MultiRAE Plus 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 14 hours supplied by the advanced Lithium-ion (Li-ion) battery, the drop-in alkaline pack supplied with every MultiRAE Plus 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** assures that the MultiRAE Plus survives the bumps and knocks of tough field use
- **Strong, built-in sample pump** draws up to 100 feet (30m) horizontally or vertically. Large external filter and automatic low flowage
- **Large keys** are 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 down-load to PC (with the optional datalogging)
- **Loud audible alarm** that varies for different alarm conditions and an optional external vibration alarm for noisy areas
- **Access sensors and battery in seconds** with the new, improved case

### Applications

#### HazMat/Homeland Security

- Initial PPE (personal protective equipment) assessment
- Leak detection
- Perimeter establishment and maintenance
- Spill delineation
- Decontamination
- Remediation

#### Confined Space Entry

- Aviation/wing tank entry with jet fuel
- Shipyard and maritime confined spaces with diesel fuel
- Pulp and paper industry for confined space entry in turpentine environments

#### Environmental

- Soil and water headspace analysis
- Leaking underground storage tanks (LUST)
- Landfill monitoring

#### Industrial Hygiene, Plant Health & Safety

- Confined Space Entry
- Indoor Air Quality (IAQ)





Specifications\*

Detector Specifications

Size	4.65"L x 3.0"W x 1.9"H (11.8 x 7.6 x 4.8 cm)
Weight	16 oz. with battery (454g)
Sensors	Up to 5 sensors including: <ul style="list-style-type: none"><li>• Photoionization detector for VOCs, 10.6 eV lamp standard</li><li>• Protected catalytic bead for combustible gases</li><li>• Interchangeable electrochemical sensors for oxygen and toxic gases (2)</li></ul>
Battery	<ul style="list-style-type: none"><li>• Interchangeable Li-ion and alkaline battery packs</li><li>• Rechargeable units include Lithium-ion battery pack with internal smart charging, 120V AC/DC wall adapter, and spare alkaline battery pack</li></ul>
Operating Hours	<ul style="list-style-type: none"><li>• 14 hours continuous with Li-ion (typical)</li><li>• Unit will run and charge simultaneously</li></ul>
Display	2 line, 16 digit LCD with LED backlighting automatically in dim light or alarm condition
Keypads	1 operation and 2 programming keys
Direct Readout	Instantaneous values (up to 5): <ul style="list-style-type: none"><li>• Oxygen as percentage by volume</li><li>• Combustible gas as percentage of lower explosive level (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>
Alarms	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>• Automatic reset or latching with manual override</li><li>• Additional diagnostic alarms and display messages for low battery and pump stall</li></ul>
EM/RFI	Highly resistant to EMI/RFI, Compliant with EMC Directive 89/336/EEC
IP Rating	IP-55: protected against dust, protected against low pressure jets of water from all directions
Datalogging & Communication	Optional 80 hours, 5 channels at one minute intervals download to PC with serial number of unit, user ID, site number, and calibration date
Calibration	Two-point field calibration for zero span gas
Sampling Pump	Internal two-speed pump. Flow rates: <ul style="list-style-type: none"><li>• Low: ~150 cc/min</li><li>• High: ~250 cc/min</li></ul>
Low Flow Alarm	Auto shut-off pump at low flow condition
Hazardous Area Approval	<ul style="list-style-type: none"><li>• US and Canada: UL, cUL, Classified as Intrinsically Safe for use in Class I, Division I Groups A, B, C, D, T3C</li><li>• Europe: ATEX II 2G EEx ia d IIC T3 &amp; T4</li></ul>
Temperature	-4° to 113 °F (-20 to 45°C)
Humidity	0% to 95% relative humidity (non-condensing)
Attachment	Durable yellow boot with belt clip and wrist strap; Shoulder strap; optional tripod/wall mounting bracket
Warranty	Lifetime on non-consuming components (per RAE Systems Standard Warranty), 2 years for 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 10.6eV PID lamp

\*Specifications are subject to change

Sensor Specifications

Sensor	Range	Resolution
Oxygen	0-30%	0.1%
Combustible Gas	0-100% LEL	1% LEL
VOCs	0-200 ppm	0.1 ppm
	200-2000 ppm	1 ppm
Carbon Monoxide	0-500 ppm	1 ppm
Hydrogen Sulfide	0-100 ppm	1 ppm
Sulfur Dioxide	0-20 ppm	0.1 ppm
Nitric Oxide	0-250 ppm	1 ppm
Nitrogen Dioxide	0-20 ppm	0.1 ppm
Chlorine	0-10 ppm	0.1 ppm
Hydrogen Cyanide	0-100 ppm	1 ppm
Ammonia	0-50 ppm	1 ppm
Phosphine	0-5 ppm	0.1 ppm

Multirae Plus Accessories

Monitor only includes:

- Sensors as specified
- Calibration adapter
- Training CDROM
- Operation and maintenance manual
- Rubber boot with belt clip
- Alkaline battery adapter
- Rechargeable units additionally include:
  - Standard Lithium-ion (Li-ion), optional extended duration Lithium-ion battery, or ATEX-certified charger and barrier kit
  - 120/230 V AC/DC Wall Adapter (if specified)
- 3 external filters
- 3-inch inlet probe

Monitor with accessories kit also includes:

- Hard transport case with pre-cut foam
- Sampling wand with 15 feet (5m) of self-coiling Teflon® tubing
- Tool Kit



Black boot is available for tactical operations (part number 027-3042-000)

Optional calibration kit also includes:

- Four-gas mix in a 34L cylinder; (50% LEL, 20.9% O<sub>2</sub>, 25 ppm Hydrogen Sulfide, 50 ppm Carbon Monoxide)
- 100 ppm Isobutylene in 34L cylinder
- Calibration regulator(s) and tubing

Datalogging Monitors also include:

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

Optional Guaranteed Cost of Ownership Program:

- 4-year repair and replacement guarantee
- Annual maintenance and servicing

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