



MultiRAE Pro

Wireless Portable Multi-Threat
Radiation and Chemical Detector



The MultiRAE Pro is the industry's only portable wireless multi-threat monitor. The MultiRAE Pro's ability to simultaneously detect gamma radiation and toxic industrial chemicals (TICs/TIMs) enables responders to reduce the equipment footprint and achieve greater agility when operating downrange.

The MultiRAE Pro's optional wireless capability improves safety by providing commanders and safety officers real-time access to instrument readings and alarm status from any location¹ for better situational awareness and faster incident response.

- Detector of choice for government agencies and top HazMat teams worldwide
- Highly versatile and customizable
- Man Down Alarm with real-time remote wireless notification
- Compliant with MIL-STD-810G and 461F performance standards
- Fully automatic bump testing and calibration with AutoRAE 2

KEY FEATURES

Wireless. Versatile. Proven.

- All-in-one monitoring capabilities for radiation, VOCs, oxygen, toxic and combustible gases, up to 6 threat types at a time²
- Over 25 interchangeable sensor options, including parts-per-billion PID and gamma radiation
- Wireless access to real-time instrument readings and alarm status from any location
- Unmistakable five-way local and remote wireless notification of alarm conditions
- Intelligent sensors store calibration data, so they can be swapped in the field³
- Large graphical display with easy-to-use, icon-driven user interface

APPLICATIONS

- Civil defense (search and rescue)
- Homeland security
- HazMat response
- Military (CBRNE detection, EOD)
- Semiconductor manufacturing
- Environmental



CBRN detection with the MultiRAE Pro

MIL-STD-461F

MIL-STD-810G



AutoRAE 2
Compatible



ATEX

IECEx



MultiRAE Pro



Wireless Portable Multi-Threat Radiation and Chemical Detector

SPECIFICATIONS

Instrument Specifications⁴

| | |
|---|--|
| Size | 7.6" H x 3.8" W x 2.6" D (193 x 96.5 x 66 mm) |
| Weight | 31 oz (880 g) |
| Sensors | Over 25 intelligent interchangeable field-replaceable sensors including gamma radiation, ppb and ppm PID sensors for VOCs, electrochemical sensors for toxic gases and oxygen, combustible LEL and NDIR sensors, and CO ₂ NDIR sensor |
| Battery Options, Runtime ⁵ and Recharge Time | - Rechargeable Li-ion (~12-hr. runtime, < 6-hr. recharge time) - Extended duration Li-ion (~18-hr. runtime, < 9-hr. recharge time) - Alkaline adapter with 4 x AA batteries (~6-hr. runtime) |
| Display | Monochrome graphical LCD display (128 x 160) with backlighting Automatic screen "flip" feature |
| Display Readout | - Real-time reading of gas concentrations; PID measurement gas and correction factor; Man Down Alarm on/off; visual compliance indicator; battery status; datalogging on/off; wireless on/off and reception quality. - STEL, TWA, peak, and minimum values |
| Keypad Buttons | 3 operation and programming keys (Mode, Y/+, and N/-) |
| Sampling | Built-in pump. Average flow rate: 250 cc/min. Auto shutoff in low-flow conditions |
| Calibration | Automatic with AutoRAE 2 Test and Calibration System or manual |
| Alarms | Wireless remote alarm notification; multi-tone audible (95 dB @ 30 cm), vibration, visible (flashing bright red LEDs), and on-screen indication of alarm conditions - Man Down Alarm with pre-alarm and real-time remote wireless notification |
| Datalogging | Continuous datalogging (6 months for 5 sensors at 1-minute intervals, 24/7) - User-configurable datalogging intervals (from 1 to 3,600 seconds) |
| Communication and Data Download | - Data download and instrument set-up and upgrades on PC via desktop charging and PC comm. cradle, travel charger, or AutoRAE 2 Automatic Test and Calibration System - Wireless data and alarm status transmission via built-in RF modem (optional) |
| Wireless Network | ProRAE Guardian Real-Time Wireless Safety System or EchoView Host-based Closed-Loop System |
| Wireless Frequency | ISM license-free bands |
| Wireless Range (Typical) | MultiRAE Pro to RAElink3 [Z1] Mesh modem ~330 feet (100 meters) MultiRAE Pro to EchoView Host, RAEMesh Reader or RAEPoint ~660 feet (200 meters) |
| Operating Temperature | -4° to 122°F (-20° to 50°C) |
| Humidity | 0% to 95% relative humidity (non-condensing) |
| Dust and Water Resistance | IP-65 ingress protection rating |
| Hazardous Location Approvals | CSA: Class I, Division 1, Groups A, B, C and D, T4 ATEX: 0575 II 2G Ex ia d IIC T4 Gb 1G Ex ia IIC T4 Ga if IR Sensor is not installed I M2 Ex ia d I Mb IECEx: Ex ia d IIC T4 Gb Ex ia IIC T4 Ga if IR Sensor is not installed I M2 Ex ia d I Mb IECEx/ANZEx: Ex ia d IIC T4 Gb Ex ia IIC T4 Ga if IR Sensor is not installed Ex ia I Ma |
| CE Compliance (European Conformity) | EMC directive: 2004/108/EC. R&TTE directive: 1999/5/EC. ATEX directive: 94/9/EC |
| EMI/RFI ⁵ | No effect when exposed to 0.43mW/cm ² RF interference from a 5-watt transmitter at 12" (30cm) |
| Performance Tests | MIL-STD-810G and 461F compliant. LEL CSA C22.2 No. 152; ISA-12.13.01 |
| Languages | Arabic, Chinese, Czech, Danish, Dutch, English, French, German, Indonesian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Spanish, Swedish, and Turkish |
| Warranty | - Two years on non-consumable components and catalytic LEL, CO, H ₂ S, and O ₂ sensors - One year on all other sensors, pump, battery, and other consumable parts |

Sensor Specifications⁴

| Radiation Sensor | Range | Sensor Type |
|--|--------------------------------|---|
| Gamma | 0 to 20,000 µRem/h (dose rate) | 1cc Cst (TI) scintillator with photodiode |
| PID Sensors | Range | Resolution |
| VOC 10.6 eV (Ext. Range) | 0 to 5,000 ppm | 0.1 ppm |
| VOC 10.6 eV (ppb) | 0 to 2,000 ppm | 10 ppb |
| Combustible Sensors | Range | Resolution |
| Catalytic LEL | 0 to 100% LEL | 1% LEL |
| NDIR (0-100% LEL Methane) | 0 to 100% LEL | 1% LEL |
| NDIR (0-100% Vol. Methane) | 0 to 100% Vol. | 0.1% Vol. |
| Carbon Dioxide Sensor | Range | Resolution |
| Carbon Dioxide (CO ₂) NDIR | 0 to 50,000 ppm | 100 ppm |
| Electrochemical Sensors | Range | Resolution |
| Ammonia (NH ₃) | 0 to 100 ppm | 1 ppm |
| Carbon Monoxide (CO) | 0 to 500 ppm | 1 ppm |
| Carbon Monoxide (CO), Ext. Range | 0 to 2,000 ppm | 10 ppm |
| Carbon Monoxide (CO), H ₂ -comp. | 0 to 2,000 ppm | 10 ppm |
| Carbon Monoxide (CO) + Hydrogen Sulfide (H ₂ S) Combo | 0 to 500 ppm 0 to 200 ppm | 1 ppm 0.1 ppm |
| Chlorine (Cl ₂) | 0 to 50 ppm | 0.1 ppm |
| Chlorine Dioxide (ClO ₂) | 0 to 1 ppm | 0.03 ppm |
| Ethylene Oxide (EtO-A) | 0 to 100 ppm | 0.5 ppm |
| Ethylene Oxide (EtO-B) | 0 to 10 ppm | 0.1 ppm |
| Formaldehyde (HCHO) | 0 to 10 ppm | 0.05 ppm |
| Hydrogen Cyanide (HCN) | 0 to 50 ppm | 0.5 ppm |
| Hydrogen Sulfide (H ₂ S) | 0 to 100 ppm | 0.1 ppm |
| Methyl Mercaptan (CH ₃ -SH) | 0 to 10 ppm | 0.1 ppm |
| Nitric Oxide (NO) | 0 to 250 ppm | 0.5 ppm |
| Nitrogen Dioxide (NO ₂) | 0 to 20 ppm | 0.1 ppm |
| Oxygen (O ₂) | 0 to 30% Vol. | 0.1% Vol. |
| Phosphine (PH ₃) | 0 to 20 ppm | 0.1 ppm |
| Sulfur Dioxide (SO ₂) | 0 to 20 ppm | 0.1 ppm |

- 1 Additional equipment and/or software licenses may be required to enable remote wireless monitoring and alarm transmission.
- 2 A two-gas combination sensor is required for a 6-gas configuration.
- 3 RAE Systems recommends calibrating sensors on installation.
- 4 Specifications are subject to change.
- 5 Specification for non-wireless monitors.

ORDERING INFORMATION (MODEL: PGM-6248)

- Wireless¹ and non-wireless configurations are available
- Refer to the Portables Pricing Guide for part numbers for monitors, accessories, sampling and calibration kits, gas sensors, and replacement parts

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