



MultiRAE Pro

Wireless Portable Multi-Threat Monitor for Radiation and Chemical Detection



The MultiRAE Pro is the industry's first wireless multi-threat detection tool that combines advanced simultaneous monitoring capabilities for gamma radiation and multiple chemical threats in one highly portable instrument.

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

KEY FEATURES

Wireless. Versatile. Proven.

- All-in-one continuous monitoring capabilities for radiation, VOCs, oxygen, toxic and combustible gases, up to 6 threats at a time³
- Wireless access to real-time instrument readings and alarm status from any location
- Unmistakable five-way local and remote wireless notification of alarm conditions¹
- Over 25 interchangeable sensor options, including parts-per-billion PID
- Intelligent sensors store calibration data, so they can be swapped in the field⁴
- Large graphical display with easy-to-use, icon-driven user interface

APPLICATIONS

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

- World's first wireless portable multi-threat monitor
- Highly versatile and customizable for different applications
- Man Down Alarm with real-time remote wireless notification
- Easy maintenance with replaceable sensors, pump, and plug-and-play battery
- Fully automatic bump testing and calibration with AutoRAE2²



CBRN detection with the MultiRAE Pro



AutoRAE 2
Compatible



MultiRAE Pro



Wireless Portable Multi-Threat Monitor for Radiation and Chemical Detection

SPECIFICATIONS

Instrument Specifications⁵

| | |
|---|---|
| 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 ⁶ and Recharge Time | - Rechargeable Li-ion (~12-hr. runtime, < 6-hr. recharge time) - Extended duration ² 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; battery status; datalogging on/off; wireless on/off and reception quality. - STEL, TWAA, 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 ² 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 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 |
| Wireless Frequency | ISM license-free bands |
| Wireless Range (Typical) | MultiRAE Pro to RAELink3 Mesh or RAELink3 Z1 Mesh modems ~ 33 feet (10 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/IP-67 (when off) 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 IECEx: Ex ia d IIC T4 Gb |
| CE Compliance (European Conformity) | EMC directive: 2004/108/EC. R&TTE directive: 1999/5/EC. ATEX directive: 94/9/EC |
| EMI/RFI ⁶ | No effect when exposed to 0.43mW/cm ² RF interference from a 5-watt transmitter at 12" |
| Performance Tests | MIL-STD-810G 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, and Swedish |
| 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 |

1 Additional equipment and/or software licenses may be required to enable remote wireless monitoring and alarm transmission.

2 Contact RAE Systems for availability.

3 A two-gas combination sensor is required for a 6-gas configuration.

4 RAE Systems recommends calibrating sensors on installation.

5 Specifications are subject to change.

6 Specification for non-wireless monitors.

Sensor Specifications⁵

| Radiation Sensor | Range | Resolution |
|--|---|------------------|
| Gamma | 0 to 20,000 µREM/h 1 µREM to 4.29 REM (dose range) | 1 µREM/h |
| PID Sensors | Range | Resolution |
| VOC 10.6 eV (HR) | 0 to 5,000 ppm | 0.1 ppm |
| VOC 10.6 eV (ppb) | 0 to 2,000 ppm | 10 ppb |
| VOC 9.8 eV ² | 0 to 1,000 ppm (benzene) | 0.1 ppm |
| 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 |
| Ethylene Oxide (EtO-C), Ext. Range | 0 to 500 ppm | 10 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 |
| Hydrogen Sulfide (H ₂ S), Ext. Range | 0 to 1,000 ppm | 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 |

ORDERING INFORMATION (MODEL: PGM-624X)

- 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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