

# MultiRAE Pro



Wireless Portable Multi-Threat Monitor for Radiation and Chemical Detection

## SPECIFICATIONS

### Instrument Specifications<sup>5</sup>

|                                                         |                                                                                                                                                                                                                                                   |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 <sub>2</sub> NDIR sensor  |
| Battery Options, Runtime <sup>6</sup> and Recharge Time | - Rechargeable Li-ion (~12-hr. runtime, < 6-hr. recharge time)<br>- Extended duration <sup>2</sup> Li-ion (~18-hr. runtime, < 9-hr. recharge time)<br>- Alkaline adapter with 4 x AA batteries (~6-hr. runtime)                                   |
| Display                                                 | Monochrome graphical LCD display (128 x 160) with backlighting<br>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.<br>- STEL, TWVA, 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 <sup>2</sup> 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<br>- 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)<br>- 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<br>- 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<br>ATEX:  0575  II 2G Ex ia d IIC T4 Gb<br>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 <sup>6</sup>                                    | No effect when exposed to 0.43mW/cm <sup>2</sup> 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 <sub>2</sub> S, and O <sub>2</sub> sensors<br>- 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 Specifications<sup>5</sup>

| Radiation Sensor                                                 | Range                                                 | Resolution       |
|------------------------------------------------------------------|-------------------------------------------------------|------------------|
| Gamma                                                            | 0 to 20,000 µREM/h<br>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 <sup>2</sup>                                          | 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 <sub>2</sub> ) NDIR                           | 0 to 50,000 ppm                                       | 100 ppm          |
| Electrochemical Sensors                                          | Range                                                 | Resolution       |
| Ammonia (NH <sub>3</sub> )                                       | 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 <sub>2</sub> -comp.                      | 0 to 2,000 ppm                                        | 10 ppm           |
| Carbon Monoxide (CO) + Hydrogen Sulfide (H <sub>2</sub> S) Combo | 0 to 500 ppm<br>0 to 200 ppm                          | 1 ppm<br>0.1 ppm |
| Chlorine (Cl <sub>2</sub> )                                      | 0 to 50 ppm                                           | 0.1 ppm          |
| Chlorine Dioxide (ClO <sub>2</sub> )                             | 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 <sub>2</sub> S)                              | 0 to 100 ppm                                          | 0.1 ppm          |
| Hydrogen Sulfide (H <sub>2</sub> S), Ext. Range                  | 0 to 1,000 ppm                                        | 1 ppm            |
| Methyl Mercaptan (CH <sub>3</sub> -SH)                           | 0 to 10 ppm                                           | 0.1 ppm          |
| Nitric Oxide (NO)                                                | 0 to 250 ppm                                          | 0.5 ppm          |
| Nitrogen Dioxide (NO <sub>2</sub> )                              | 0 to 20 ppm                                           | 0.1 ppm          |
| Oxygen (O <sub>2</sub> )                                         | 0 to 30% Vol.                                         | 0.1% Vol.        |
| Phosphine (PH <sub>3</sub> )                                     | 0 to 20 ppm                                           | 0.1 ppm          |
| Sulfur Dioxide (SO <sub>2</sub> )                                | 0 to 20 ppm                                           | 0.1 ppm          |

## ORDERING INFORMATION (MODEL: PGM-624X)

- Wireless<sup>1</sup> 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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