MultiRAE

Wireless Portable Six-Gas Monitor with Advanced VOC Detection Capability

The MultiRAE is the most advanced wireless portable chemical detector on the market. The MultiRAE's cutting-edge PID sensor detects volatile organic compounds (VOCs), and supports over 30 electrochemical, NDIR, and catalytic sensors to detect up to five additional threats. These include: toxic and combustible gases, oxygen deficiency/enrichment, and carbon dioxide.

The MultiRAE's wireless capability elevates worker protection to the next level by providing safety officers real-time access to instrument readings and alarm status from any location for better visibility and faster incident response.

- **The most advanced wireless portable chemical detector on the market**
- **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 automated bump testing and calibration with AutoRAE 2[1]**

KEY FEATURES

Wireless. Versatile. Proven.

- Wireless access to real-time instrument readings and alarm status from any location
- Unmistakable five-way local and remote wireless notification of alarm conditions
- Over 30 interchangeable sensor options, including 0.1 to 5,000 ppm PID
- Intelligent sensors store calibration data, so they can be swapped in the field[2]
- Extensive on-board gas libraries (190 VOCs and 55 combustible gases)
- Largest display in its class
- Continuous datalogging (6 months for 5 sensors, 24x7)

APPLICATIONS

- Industrial hygiene, personal protection, and multi-gas leak detection in industries such as:
  - Oil and gas
  - Chemical
  - Aviation (wing tank entry)
  - Shipping / Marine
  - Environmental
  - Pharmaceutical
- HazMat response
- Clandestine drug labs

MultiRAE used for worker exposure monitoring at an oil refinery

MultiRAE

Wireless Portable Six-Gas[4] Monitor with Advanced VOC Detection Capability

SPECIFICATIONS

Instrument Specifications[5]

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 30 intelligent interchangeable field-replaceable sensors including PID for VOCs, electrochemical sensors for toxic gases and oxygen, combustible LEL and NDIR sensors, and CO_2 NDIR sensor
Battery Options	- 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; 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[1] 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 Automated Test and Calibration System[1] - Wireless data and alarm status transmission via built-in RF modem (optional)
Wireless Network	RAE Systems Dedicated Wireless Network
Wireless Frequency	ISM license-free bands
Wireless Range (Typical)	656 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 rating
Hazardous Location Approvals	CSA: cSPus Class I, Division 1, Groups A, B, C and D, T4 ATEX: CE 0575 〈Ex〉 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	No effect when exposed to 0.43mW/cm^2 RF interference from a 5-watt transmitter at 12"
Performance Tests	MIL-STD-810F 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_2S, and O_2 sensors - One year on all other sensors, pump, battery, and other consumable parts

1 Contact RAE Systems for availability.
2 RAE Systems recommends calibrating sensors on installation.
3 Additional equipment and/or software licenses may be required to enable remote wireless monitoring and alarm transmission.
4 The CO + H_2S combo sensor is required for a 6-gas configuration.
5 Specifications are subject to change.

Sensor Specifications[5]

PID Sensors	Range	Resolution
VOC 10.6 eV (HR) VOC 9.8 eV[1]	0 to 5,000 ppm 0 to 1,000 ppm	0.1 ppm 0.1 ppm

Combustible Sensors	Range	Resolution
Catalytic LEL NDIR (0-100% LEL Methane) NDIR (0-100% Vol. Methane)	0 to 100% LEL 0 to 100% LEL 0 to 100% Vol.	1% LEL 1% LEL 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) Carbon Monoxide (CO), Ext. Range Carbon Monoxide (CO), H_2-comp.	0 to 500 ppm 0 to 2,000 ppm 0 to 2,000 ppm	1 ppm 10 ppm 10 ppm
Carbon Monoxide (CO) + Hydrogen Sulfide (H_2S) 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) Ethylene Oxide (EtO-B) Ethylene Oxide (EtO-C), Ext. Range	0 to 100 ppm 0 to 10 ppm 0 to 500 ppm	0.5 ppm 0.1 ppm 10 ppm
Formaldehyde (HCHO)	0 to 10 ppm	0.01 ppm
Hydrogen (H_2)	0 to 1,000 ppm	2 ppm
Hydrogen Chloride (HCl)	0 to 15 ppm	1 ppm
Hydrogen Cyanide (HCN)	0 to 50 ppm	0.5 ppm
Hydrogen Fluoride (HF)	0 to 10 ppm	0.1 ppm
Hydrogen Sulfide (H_2S) Hydrogen Sulfide (H_2S), Ext. Range	0 to 100 ppm 0 to 1,000 ppm	0.1 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.
Phosgene ($COCl_2$)	0 to 1 ppm	0.02 ppm
Phosphine (PH_3) Phosphine (PH_3), Ext. Range	0 to 20 ppm 0 to 1,000 ppm	0.1 ppm 1 ppm
Sulfur Dioxide (SO_2)	0 to 20 ppm	0.1 ppm

ORDERING INFORMATION (MODELS: PGM-622X)

- Wireless[1,3] and non-wireless configurations are available
- Refer to the Portables Pricing Guide for part numbers for monitors and accessories

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