

# MULTIRAE

Wireless Portable Six-Gas Monitor



## Advanced VOC Detection Capability

The MultiRAE is the most advanced portable chemical detector on the market. The MultiRAE delivers the broadest PID sensor range in its class and the versatility to support 25 intelligent interchangeable sensor options (such as PID, NDIR for combustibles and CO<sub>2</sub>, ammonia, chlorine, formaldehyde, and phosphine) to fully meet the monitoring needs in a variety of applications, including industrial hygiene, personal protection, leak detection, and HazMat response.

The MultiRAE's optional wireless capability improves safety by providing commanders and safety officers real-time access to instrument readings and alarm status from any location<sup>1</sup> for better situational awareness and faster incident response.

## APPLICATIONS

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

## KEY FEATURES

- **Wireless access to real-time instrument readings and alarm status from any location<sup>1</sup>**
- **Unmistakable five-way local and remote wireless notification of alarm conditions, including Man Down Alarm<sup>1</sup>**
- **Intelligent sensors store calibration data, so they can be swapped in the field<sup>2</sup>**
- **Extensive on-board gas libraries (190 VOCs and 55 combustible gases)**
- **Largest display in its class**
- **Continuous datalogging (6 months for 5 sensors, 24x7)**

## MULTIRAE

SENSOR SPECIFICATION<sup>4</sup>

PID Sensor	Range	Resolution
VOC 10.6eV(Ext. Range)	0 to 5,000 ppm	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 Sulphide (H <sub>2</sub> S) Combo	0 to 500 ppm 0 to 200 ppm	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
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
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

## SPECIFICATIONS

Specifications subject to change without notice

<b>Size</b>	7.6" H x 3.8" W x 2.6" D (193 x 96.5 x 66 mm)
<b>Weight</b>	31 oz (880g)
<b>Sensors</b>	25 intelligent interchangeable field-replaceable sensors including PID for VOCs, electrochemical sensors for toxic gases and oxygen, combustible LEL and NDIR sensors, and CO <sub>2</sub> NDIR sensor
<b>Battery options</b>	Rechargeable Li-ion (~12-hr. runtime, < 6-hr. recharge time)
<b>Runtime<sup>5</sup> and Recharge Time</b>	Extended duration Li-ion (~18-hr. =runtime, < 9-hr. recharge time) Alkaline adapter with 4 x AA batteries (~6-hr. runtime)
<b>Display</b>	Monochrome graphical LCD display (128 x 160) with backlighting. Automatic screen "flip" feature.
<b>Display Readout</b>	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
<b>Keypad Buttons</b>	3 operation and programming keys (Mode, Y/+, N/-)

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**SPECIFICATIONS CONTINUED** Specifications subject to change without notice

<b>Sampling:</b>	Built-in pump. Average flow rate: 250 cc/min. Auto shutoff in low-flow conditions
<b>Calibration:</b>	Automatic with AutoRAE 2 Test and Calibration System or manual
<b>Alarms:</b>	<ul style="list-style-type: none"> <li>• Wireless remote alarm notification; audible (95 dB @ 30 cm), vibration, visible (flashing bright red LEDs), and on-screen indication of alarm conditions</li> <li>• Man Down Alarm with pre-alarm and real-time remote wireless notification<sup>1</sup></li> </ul>
<b>Datalogging:</b>	<ul style="list-style-type: none"> <li>• Continuous datalogging (6 months for 5 sensors at 1-minute intervals, 24/7)</li> <li>• User-configurable datalogging intervals (from 1 to 3,600 seconds)</li> </ul>
<b>Communication and Data Download:</b>	<ul style="list-style-type: none"> <li>• 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</li> <li>• Wireless data and alarm status transmission via built-in RF modem (optional)</li> </ul>
<b>Wireless Network:</b>	ProRAE Guardian Real-Time Wireless Safety System or EchoView Host-based Closed-Loop System
<b>Wireless Frequency:</b>	ISM license-free bands
<b>Wireless Range (Typical):</b>	MultiRAE to RAElink3 [Z1] Mesh modem ~330 feet (100 meters) MultiRAE to EchoView Host, RAEMesh Reader or RAEPoint ~660 feet (200 meters)
<b>Operating Temperature:</b>	-4° to 122°F (-20° to 50°C)
<b>Humidity:</b>	0% to 95% relative humidity (non-condensing)
<b>Dust and Water Resistance:</b>	IP-65 ingress protection rating (dust-tight and waterproof against hosing jets coming from all directions)
<b>Hazardous Location Approvals:</b>	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 M1 Ex ia I Ma. IECEx: Ex ia d IIC T4 Gb, Ex ia IIC T4 Ga if IR Sensor is not installed, I M1 Ex ia I Ma. IECEx/ANZEx: Ex ia d IIC T4 Gb, Ex ia IIC T4 Ga if IR Sensor is not installed, Ex ia I Ma
<b>CE Compliance (European Conformity):</b>	EMC directive: 2004/108/EC. R&TTE directive: 1999/5/EC. ATEX directive: 94/9/EC
<b>EMI/RFI5:</b>	No effect when exposed to 0.43mW/cm <sup>2</sup> RF interference from a 5-watt transmitter at 12" (30 cm)
<b>Performance Tests:</b>	MIL-STD-810G and 461F compliant. LEL CSA C22.2 No. 152; ISA-12.13.01
<b>Languages:</b>	Arabic, Chinese, Czech, Danish, Dutch, English, French, German, Indonesian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Spanish, Swedish, and Turkish
<b>Warranty:</b>	Two years on non-consumable components and catalytic LEL, CO, H <sub>2</sub> S, and O <sub>2</sub> sensors One year on all other sensors, pump, battery, and other consumable parts
<b>Part Number:</b>	72-8020-M

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

<sup>2</sup> RAE Systems recommends calibrating sensors on installation.

<sup>3</sup> A two-gas combination sensor is required for a 6-gas configuration.

<sup>4</sup> Specifications are subject to change.

<sup>5</sup> Specification for non-wireless monitors



**t** +61 8 6108 0000

**e** [info@gastech.com](mailto:info@gastech.com)

**w** [gastech.com](http://gastech.com)

**HEAD OFFICE**

24 Baretta Road  
Wangara WA 6065  
Phone: +61 8 6108 0000

**SYDNEY OFFICE**

21/25 Narabang Way  
Belrose NSW 2085  
Phone: +61 2 9451 0054

**BRISBANE OFFICE**

PO Box 349  
Cannon Hill Qld 4170  
Phone: +61 7 3160 0901