



# ToxiRAE Pro

Personal Wireless Monitor  
For Toxic Gases and Oxygen



The ToxiRAE Pro is the world's first wireless personal monitor for toxic gases and oxygen<sup>1</sup>. The ToxiRAE Pro can detect a broad range of gases—from carbon monoxide, hydrogen sulfide, and oxygen to ammonia, chlorine, and formaldehyde<sup>2</sup>. The ToxiRAE Pro provides safety professionals wireless remote access to real-time instrument readings and alarm status for better visibility and faster incident response. The ToxiRAE Pro's intelligent interchangeable sensors store calibration data, which allows users to monitor for one gas one day and another gas the next, by simply swapping the sensors in the ToxiRAE Pro<sup>3</sup>.

## KEY FEATURES

Wireless. Personal. 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
- Intelligent sensors store calibration data, so they can be swapped in the field
- Most electrochemical sensors are shared with MultiRAE family instruments
- Largest display in its class
- Continuous datalogging
- Easy to use
- Reliable, rugged, and intrinsically safe

## APPLICATIONS

- Agriculture
- Chemical
- Fire service / HazMat
- Food and beverage
- Oil and gas
- Pharmaceutical
- Pulp and paper
- Steel manufacturing
- Water and wastewater industries

- **Wireless elevates safety to the next level**
- **Over 20 intelligent interchangeable sensor options to cover a wide variety of gases**
- **Man Down Alarm with real-time remote wireless notification**
- **Easy to maintain with replaceable sensor, filter, and Li-ion battery**
- **Fully-automatic bump testing and calibration with AutoRAE2<sup>2</sup>**



The world's first personal wireless monitor protects workers from toxic gases without getting in the way



AutoRAE<sup>2</sup>  
Compatible



# ToxiRAE Pro



Personal Wireless Monitor for Toxic Gases and Oxygen

## SPECIFICATIONS

### Instrument Specifications<sup>4</sup>

Size	4.6" H x 2.4" W x 1.2" D (118 x 60 x 30 mm)
Weight	7.76 oz. (220 g)
Sensor	Over 20 intelligent interchangeable field-replaceable electrochemical sensors
Battery	Rechargeable Li-ion battery - Operating time: > 30 hours (normal operation, non-wireless) - Recharge time: < 4 hours through charging cradle
Display	Graphical LCD display with white LED backlighting (activated when monitor is in alarm or with a button press)
Display Readout	- Real-time reading of gas concentrations in parts per million (ppm) or mg/m <sup>3</sup> ; battery status; data logging on/off; wireless on/off and reception quality - STEL, TWA, and peak values
Keypad	2 buttons for operation and programming
Sampling	Diffusion
Calibration	Automatic with AutoRAE 2 Test and Calibration System <sup>2</sup> or manual
Alarm Modes	- Wireless remote alarm notification; audible (95 dB @ 30 cm), vibration, visible alarm (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 with a three-month capacity (at one-minute intervals) - User-configurable datalogging interval (from 1 to 3,600 seconds)
Communication and Data Download	- Data download and instrument set-up on PC via charging and PC comm. cradle - Data download via AutoRAE 2 Automatic Test and Calibration System - Wireless data and status transmission <sup>1</sup> via built-in RF modem (optional)
Wireless Network	ProRAE Guardian Real-Time Wireless Safety System or Closed-Loop Network with the EchoView Host
Wireless Frequency	ISM license-free bands
Wireless Range (Typical)	ToxiRAE Pro to Mesh Router, EchoView Host, or Mesh Reader <sup>2</sup> ~ 330 feet (100 meters) ToxiRAE Pro to RAELink3 Mesh or RAELink3 Z1 Mesh modems ~ 33 feet (10 meters)
Operating Temperature	-4° to 131°F (-20° to 55°C)
Humidity	0% to 95% relative humidity (non-condensing)
Dust and Water Resistance	IP-65 rating for dust and water ingress protection (validated by an independent test laboratory)
Hazardous Location Approvals	CSA:  Class I, Division 1, Groups A, B, C and D. T-code T4 Class I, Zone 0 A/Exia IIC T4 ATEX:  II 1G, Ex ia IIC Ga T4 IECEX: Ex ia IIC Ga T4 China Ex: Ex ia IIC T4
CE Compliance (European Conformity)	EMC directive: 2004/108/EC. R&TTE directive: 1999/5/EC. ATEX directive: 94/9/EC
Warranty	- Two years on non-consumable components and CO, H <sub>2</sub> S, and O <sub>2</sub> sensors - One year on all other sensors, battery, and other consumable parts

1 Wireless units have a functioning RF modem and are ready for wireless deployments; non-wireless units cannot be upgraded to wireless. Additional equipment and/or software licenses may be required to enable remote wireless monitoring and alarm transmission.

2 Contact RAE Systems for availability.

3 RAE Systems recommends calibrating sensors on installation.

4 Specifications are subject to change.

### Sensor Specifications<sup>4</sup>

Sensor	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
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	1 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 (H <sub>2</sub> )	0 to 1,000 ppm	2 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
Phosphine (PH <sub>3</sub> ), Ext. Range	0 to 1,000 ppm	1 ppm
Sulfur Dioxide (SO <sub>2</sub> )	0 to 20 ppm	0.1 ppm

### TOXIRAE PRO COMES WITH:

- ToxiRAE Pro monitor with sensor as specified, alligator clip, protective rubber boot, and rechargeable battery installed
- Charging and PC communication cradle
- PC communication cable
- AC adapter (100 to 240 V, 50/60 Hz AC to 12 V DC)
- Calibration adapters
- Quick Start Guide
- CD with documentation
- ProRAE Studio II software for PC-based instrument configuration and data management
- Calibration card, quality certificate, and warranty/registration card

### OPTIONAL ACCESSORIES

- AutoRAE 2 Automatic Test and Calibration System
- Multi-unit charging station for up to five monitors

### ORDERING INFORMATION (MODEL: PGM-1860)

- Wireless or non-wireless versions are available<sup>1</sup>
- Bulk packages of 10 units are available for select configurations
- Refer to the Portables Pricing Guide for part numbers for monitors, accessories, maintenance kits, gas, sensors, and replacement parts



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