

environmental

AND TECHNOLOGY

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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! The ToxiRAE Pro can detect a broad range of gases—from carbon monoxide, hydrogen sulfide, and oxygen to ammonia, chlorine, and formaldehyde². 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 Pro3.

- · 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 AutoRAE 22

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



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















ToxiRAE Pro

Personal Wireless Monitor for Toxic Gases and Oxygen



SPECIFICATIONS

Instrument Specifications

Weight 7.76 oz. (220 g) Sensor Over 20 intelligent interchangeable field-replaceable electrochemical sensors Battery Rechargeable Li-ion battery	0:	4.000 0 400 M 4.00 D (440 00 00 1)		
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 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/m², battery status; data logging on/off; wireless on/off and reception quality - STEL, TWA, and peak values Keypad 2 buttons for operation and programming Diffusion - Automatic with AutoRAE 2 Test and Calibration System² 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 and instrument set-up on PC via charging and PC comm. cradle - Data download via AutoRAE 2 Automatic Test and Calibration System - Wireless Network - Wireless data and status transmission¹ via built-in RF modem (optional) Wireless Network - ProRAE Guardian Real-Time Wireless Safety System or Closed-Loop Network with the EchoView Host or Closed-Loop Network with the EchoView Host or Mesh Reader² - 660 feet (200 me ToxiRAE Pro to RAELink3 Mesh or RAELink3 21 Mesh modems - 330 feet (100 met ToxiRAE Pro to RAELink3 Mesh or RAELink3 21 Mesh modems - 330 feet (100 met ToxiRAE Pro to RAELink3 Mesh or RAELink3 21 Mesh modems - 330 feet (100 met ToxiRAE Pro to RAELink3 Mesh or RAELink3 21 Mesh modems - 330 feet (100 met ToxiRAE Pro to RAELink3 Mesh or RAELink3 21 Mesh modems - 330 feet (100 met ToxiRAE Pro to RAELink3 Mesh or RAELink3 21 Mesh modems - 330 feet (100 met ToxiRAE Pro to RAELink3 Mesh or RAELink3 21 Mesh modems -	Size	4.6" H x 2.4" W x 1.2" D (118 x 60 x 30 mm)		
Battery Rechargeable Li-ion battery Operating time: > 30 hours (normal operation, non-wireless) - Recharge time: < 4 hours through charging cradle 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/m³; 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 Automatic with AutoRAE 2 Test and Calibration System² or manual Alarm Modes - Wireless remote alarm notification; audible (95 dB @ 30 cm), vibration, visibl 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 and status transmission¹ via built-in RF modem (optional) Wireless Network ProRAE Guardian Real-Time Wireless Safety System or Closed-Loop Network with the EchoView Host, Wireless Alarm Alarm Wireless Safety System or Closed-Loop Network with the EchoView Host, ToxiRAE Pro to Mesh Router, EchoView Host, or Mesh Reader² - 660 feet (200 me ToxiRAE Pro to Pale Link3 Mesh or RAELink3 21 Mesh modems - 330 feet (100 met Derating Temperature - 4° to 131°F (-20° to 55°C) Humidity O% to 95% relative humidity (non-condensing) P-65 rating for dust and water ingress protection (validated by an independent test laboratory) Safety Certifications CSA: - Calass I, Division 1, Groups A, B, C and D. T-code T4 Class I, Zone 0 A/Exia IIC T4 ATEX: - Certification CSA: IIC Ga T4 LECEx: Exia IIC G	Weight	7.76 oz. (220 g)		
Operating time: > 30 hours (normal operation, non-wireless) - Recharge time: < 4 hours through charging cradle 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/m³; 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 Automatic with AutoRAE 2 Test and Calibration System² or manual Alarm Modes - Wireless remote alarm notification; audible (95 dB @ 30 cm), vibration, visibl 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 and instrument set-up on PC via charging and PC comm. cradle - Data download and status transmission¹ via built-in RF modem (optional) Wireless Network ProRAE Guardian Real-Time Wireless Safety System or Closed-Loop Network with the EchoView Host, or Mesh Reader² - 660 feet (200 me ToxiRAE Pro to ReAELink3 Mesh or RAELink3 21 Mesh modems - 330 feet (100 met Operating Temperature - 4° to 131°F (-20° to 55°C) Humidity O% 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) Safety Certifications CSA:	Sensor	Over 20 intelligent interchangeable field-replaceable electrochemical sensors		
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Calibration Automatic with AutoRAE 2 Test and Calibration System² or manual - Wireless remote alarm notification; audible (95 dB @ 30 cm), vibration, visibl alarm (flashing bright red LEDs), and on-screen indication of alarm conditions - Man Down Alarm with pre-alarm and real-time remote wireless notification - Man Down Alarm with pre-alarm and real-time remote wireless notification - Man Down Alarm with pre-alarm and real-time remote wireless notification - 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 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 transmission¹ via built-in RF modem (optional) Wireless Network - ProRAE Guardian Real-Time Wireless Safety System or Closed-Loop Network with the EchoView Host Wireless Range (Typical) - ToxiRAE Pro to Mesh Router, EchoView Host, or Mesh Reader² ~ 660 feet (200 me ToxiRAE Pro to RAELink3 Mesh or RAELink3 Z1 Mesh modems ~ 330 feet (100 met) Operating Temperature - 4° to 131°F (-20° to 55°C) Humidity - O% 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) Safety Certifications CSA: - Set (Class I, Division 1, Groups A, B, C and D. T-code T4 - Class I, Zone 0 A/Exia IIC T4 - ATEX: - C Set II 1G, Ex ia IIC Ga T4 - China Ex: Ex ia IIC T4 - Two years on non-consumable components and C0, H ₂ S, and O ₂ sensors - One year on all other sensors, battery, and other consumable parts Wireless Frequency Usual School	Sampling			
Alarm Modes - Wireless remote alarm notification; audible (95 dB @ 30 cm), vibration, visibl alarm (flashing bright red LEDs), and on-screen indication of alarm conditions - Man Down Alarm with pre-alarm and real-time remote wireless notification - Continuous datalogging with a three-month capacity (at one-minute intervals) - User-configurable datalogging interval (from 1 to 3,600 seconds) - Data download and instrument set-up on PC via charging and PC comm. cradle - Data Download - Data download via AutoRAE 2 Automatic Test and Calibration System - Wireless Network Wireless Network - Wireless data and status transmission¹ via built-in RF modem (optional) Wireless Range (Typical) - ToxiRAE Pro to Mesh Router, EchoView Host - Vireless Range (Typical) - ToxiRAE Pro to Mesh Router, EchoView Host, or Mesh Reader² ~ 660 feet (200 me ToxiRAE Pro to RAELink3 Mesh or RAELink3 Z1 Mesh modems ~ 330 feet (100 met ToxiRAE Pro to RAELink3 Mesh or RAELink3 Z1 Mesh modems ~ 330 feet (100 met ToxiRAE Pro to 131°F (-20° to 55°C) - Wireless Range (Typical) - Safety Certifications - CSA: - Cus Class I, Division 1, Groups A, B, C and D. T-code T4 - Class I, Zone 0 A/Exia IIC T4 - ATEX: - C C III IG, Ex ia IIC Ga T4 - China Ex: Ex ia IIC T4 - China Ex: Ex ia IIC T4 - Two years on non-consumable components and C0, H₂S, and O₂ sensors - One year on all other sensors, battery, and other consumable parts Wireless Frequency - User-configuration visible to the sensors and the consumable parts Wireless Frequency - User-configuration visible to the consumable parts - Wireless Range (Typical) - Continuous datalogging with a three-month capacity (at one-minute intervals) - Continuous datalogging interval (from 1 to 3,600 seconds) - 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 Range (Typical) - Data download via AutoRAE 2 Automatic Test and Calibration System - Wireless Range (Typical) - Data download via AutoR		Automatic with AutoRAE 2 Test and Calibration System ² or manual		
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Humidity O% to 95% relative humidity (non-condensing) IP-65 rating for dust and water ingress protection (validated by an independent test laboratory) Safety Certifications CSA: CS	Wireless Range (Typical)	ToxiRAE Pro to Mesh Router, EchoView Host, or Mesh Reader ² ~ 660 feet (200 meter: ToxiRAE Pro to RAELink3 Mesh or RAELink3 Z1 Mesh modems ~ 330 feet (100 meters		
Dust and Water Resistance IP-65 rating for dust and water ingress protection (validated by an independent test laboratory) Safety Certifications CSA: C	Operating Temperature	-4° to 131°F (-20° to 55°C)		
test laboratory) Safety Certifications CSA: Ciss I, Division 1, Groups A, B, C and D. T-code T4 Class I, Zone 0 A/Exia IIC T4 ATEX: Ciss II 1G, Ex ia IIC Ga T4 IECEX: Ex ia IIC Ga T4 China Ex: Ex ia IIC T4 EMC/RFI EMC directive: 2004/108/EC. Two years on non-consumable components and CO, H ₂ S, and O ₂ sensors One year on all other sensors, battery, and other consumable parts Wireless Frequency ISM license-free band. IEEE 802.15.4 Sub 1GHz	Humidity	0% to 95% relative humidity (non-condensing)		
Class I, Zone 0 A/Exia IIC T4 ATEX: C	Dust and Water Resistance	IP-65 rating for dust and water ingress protection (validated by an independent test laboratory)		
Warranty - Two years on non-consumable components and CO, H ₂ S, and O ₂ sensors - One year on all other sensors, battery, and other consumable parts Wireless Frequency ISM license-free band. IEEE 802.15.4 Sub 1GHz	Safety Certifications	Class I, Zone 0 A/Exia IIC T4 ATEX:		
- One year on all other sensors, battery, and other consumable parts Wireless Frequency ISM license-free band. IEEE 802.15.4 Sub 1GHz	EMC/RFI	EMC directive: 2004/108/EC.		
	Warranty			
Wireless Approvals FCC Part 15, CE R&TTE, Others ⁴	Wireless Frequency	ISM license-free band. IEEE 802.15.4 Sub 1GHz		
	Wireless Approvals	FCC Part 15, CE R&TTE, Others4		
Radio Module Supports RM900				

- 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 Contact RAE Systems for country-specific wireless approvals and certificates. Specifications are subject to change.

Sensor Specifications

Sensor	Range	Resolution
Ammonia (NH ₃)	0 to 100 ppm	1 ppm
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
Chlorine (Cl ₂)	0 to 50 ppm	0.1 ppm
Chlorine Dioxide (CIO 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	1 ppm 0.1 ppm 10 ppm
Formaldehyde (HCHO)	0 to 10 ppm	0.05 ppm
Hydrogen (H ₂)	0 to 1,000 ppm	10ppm
Hydrogen Cyanide (HCN)	0 to 50 ppm	0.5 ppm
Hydrogen Sulfide (H ₂ S) Hydrogen Sulfide (H ₂ S), 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.
Phosphine (PH ₃)	0 to 20 ppm	0.1 ppm
Sulfur Dioxide (SO ₂)	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 available¹
- Refer to the Portables Pricing Guide for part numbers for monitors, accessories, maintenance kits, gas, sensors, and replacement parts

CORPORATE HEADQUARTERS

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