Honeywell

RAE SYSTEMS

ToxiRAE Pro CO$_2$

Personal Wireless Monitor for Carbon Dioxide

The ToxiRAE Pro CO$_2$ is the world's first wireless personal carbon dioxide monitor. It provides safety professionals with wireless remote access to real-time instrument readings and alarm status for better visibility and faster incident response. The ToxiRAE Pro offers datalogging capability and is equipped with a "Man Down" alarm and policy enforcement to ensure greater safety while making sure compliance-related procedures such as periodic testing and calibration are performed.

• Wireless remote monitoring enhances worker safety

• Man Down Alarm with real-time wireless remote notification

• Easy to maintain, with replaceable sensor, filter, and Li-Ion battery

• Fully automatic bump testing and calibration with AutoRAE 2

Applications
• Chemical manufacturing

• Food and beverage

• Wineries and breweries

• Landfills

• Water and wastewater facilities

Optional Accessories
• AutoRAE 2 Automatic Test and Calibration System

• Multi-unit charging station for up to five monitors

AutoRAE 2 with ToxiRAE Pro cradles

ToxiRAE Pro CO$_2$ comes with:
• ToxiRAE Pro CO$_2$ 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

• Calibration card, quality certificate, and warranty/registration card

FEATURES & BENEFITS

• 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 sensor stores calibration data, so it can be swapped in the field

• Largest display in its class

• Continuous datalogging

• Easy to use

• Reliable and rugged

• Device Management with Honeywell SafetySuite

ToxiRAE Pro CO$_2$ Specifications

SPECIFICATIONS	
SIZE	4.6" H x 2.4" W x 1.2" D (118 x 60 x 30 mm)
WEIGHT	7.76 oz. (220 g)
SENSORS	Nondispersive infrared sensor Range: 0 to 50,000 ppm Resolution: 100 ppm
BATTERY	Rechargeable Li-ion battery - Operating time: > 11 hours (normal operation 25 ˚ C / 77 ˚ F, 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); battery status; datalogging 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 or manual
ALARM MODES	- Wireless remote alarm noti cation; audible (95 dB @ 30 cm), vibration, visible alarm (ashing 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 setup on PC via charging and PC comm. cradle - Data download via AutoRAE 2 Automatic Test and Calibration System - Wireless data and status transmission[1] 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 or EchoView Host ~ 660 feet (200 meters) ToxiRAE Pro to RAELink3 Mesh or RAELink3 Z1 Mesh modems ~ 330 feet (100 meters)
OPERATING TEMPERATURE	-4º to 131º F (-20º to 55º C)
HUMIDITY	0% to 95% relative humidity (non-condensing)
DUST AND WATER RESISTANCE	IP-65
HAZARDOUS LOCATION APPROVALS	Unit cannot be used in hazardous area
CE COMPLIANCE (EUROPEAN CONFORMITY)	EMC directive: 2004/108/EC. R&TTE directive: 1999/5/EC
WARRANTY	- Two years on non-consumable components - 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.

Specifications are subject to change.

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RAE SYSTEMS®

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[1]. The ToxiRAE Pro can detect a broad range of gases—from carbon monoxide, hydrogen sulfide, and oxygen to ammonia, chlorine, and formaldehyde[2]. 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[3].

• 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 2[2]

Applications

• Agriculture

• Chemical

• Fire service / HazMat

• Food and beverage

• Oil and gas

• Pharmaceutical

• Pulp and paper

• Steel manufacturing

• Water and wastewater industries

Optional Accessories

• AutoRAE 2 Automatic Test and Calibration System

• Multi-unit charging station for up to five monitors

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

• Calibration card, quality certificate, and warranty/registration card

FEATURES & BENEFITS

• 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

• Device Management with Honeywell SafetySuite

ToxiRAE Pro Specifications

INSTRUMENT SPECIFICATIONS	
SIZE	4.6" H x 2.4" W x 1.2" D (118 x 60 x 30 mm)
WEIGHT	7.76 oz. (220 g)
SENSORS	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^3; 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[2] 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[1] 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 Reader[2] ~ 660 feet (200 meters) ToxiRAE Pro to RAELink3 Mesh or RAELink3 Z1 Mesh modems ~ 330 feet (100 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)
SAFETY CERTIFICATIONS	CSA: ⓢ Class I, Division 1, Groups A, B, C and D. T-code T4 Class I, Zone 0 A/Exia IIC T4 ATEX: CE ⟨Ex⟩, 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
WARRANTY	- Four years on O_2 sensor - Three years on H_2S and CO sensors - Two years on non-consumable components - One year on all other sensors, battery, and other consumable parts
WIRELESS FREQUENCY	ISM license-free band. IEEE 802.15.4 Sub 1GHz
WIRELESS APPROVALS	FCC Part 15, CE R&TTE, Others[4]
RADIO MODULE	Supports RM900

SENSOR SPECIFICATIONS	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
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	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_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.
PHOSPHINE (PH_3)	0 to 20 ppm	0.1 ppm
SULFUR DIOXIDE (SO_2)	0 to 20 ppm	0.1 ppm

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 Honeywell RAE Systems for availability.

3 Honeywell RAE Systems recommends calibrating sensors on installation.

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

Ordering Information
(Model: PGM-1860)

• Wireless or non-wireless versions are available[1]

• Refer to the Portables Pricing Guide for part numbers for monitors, accessories, maintenance kits, gas, sensors, and replacement parts

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RAE SYSTEMS

ToxiRAE Pro LEL

Personal Wireless Monitor for Combustible Gases and Vapors

The ToxiRAE Pro LEL is the world's first personal wireless combustible gas monitor. The ToxiRAE Pro LEL provides safety professionals with wireless remote access to real-time instrument readings and alarm status for better visibility and faster incident response[1]. The ToxiRAE Pro LEL quickly detects and accurately monitors combustibles in concentrations from 0 to 100% of the lower explosive limit (LEL). With the most extensive onboard gas library in its class, the ToxiRAE Pro LEL can be programmed to automatically read in %LEL of the specified compound.

• Wireless elevates safety to the next level

• 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 2[2]

Applications
• Construction

• Foundries

• Oil and gas

• Pharmaceutical

• Steel mills

• Utilities

• Water and wastewater

• Welding / hot work

Optional Accessories
• AutoRAE 2 Automatic Test and Calibration System

• Multi-unit charging station for up to five monitors

ToxiRAE Pro LEL Single -Pack Comes With:
• ToxiRAE Pro LEL monitor with sensor, 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

• Calibration card, quality certificate, and warranty/registration card

FEATURES & BENEFITS

• Wireless access to real-time instrument readings and alarm status from any location	• Unmistakable five-way local and remote wireless notification of alarm conditions	• 55 built-in LEL correction factors • Largest display in its class	• Reliable, rugged, and intrinsically safe • Continuous datalogging	• Easy to use • Device Management with Honeywell SafetySuite

ToxiRAE Pro LEL Specifications

SPECIFICATIONS[4]	
SIZE	4.6" H x 2.4" W x 1.2"D (118 x 60 x 30 mm)
WEIGHT	8.29 oz. (235 g.)
SENSOR	Catalytic bead LEL sensor with 0 to 100% LEL range and 1% LEL resolution. Response time (T90) < 15 seconds
DETECTABLE GASES	Combustible gases and vapors from paints, coatings, fuels, degreasers, adhesives, solvents, resins, etchers, inks, pesticides, herbicides, etc. using 55 onboard correction factors
BATTERY	Rechargeable Li-ion battery - Operating time: > 12 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 % of lower explosive limit (LEL); battery status; data logging on/off; wireless on/off and reception quality - Peak values
KEYPAD	2 buttons for operation and programming
SAMPLING	Diffusion
CALIBRATION	Automatic with AutoRAE 2 Test and Calibration System[2] or manual
ALARM MODES	- Wireless remote alarm notification[1]; audible (95 dB @ 30 cm), vibration, visible alarm (ashing bright red LEDs), and on-screen indication of alarm conditions - Man Down Alarm with pre-alarm and real-time remote wireless notication
DATALOGGING	- Continuous datalogging[3] with a three-month capacity (at one-minute intervals) - User-congurable 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[2] - Wireless data and status transmission 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 PID to Mesh Router, EchoView Host, or Mesh Reader[2] ~ 330 feet (100 meters) ToxiRAE Pro PID 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)
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: C € ⟨Ex⟩, 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
PERFORMANCE TEST COMPLIANCE	C22.2 No 152 ANSI/ISA-12.13.01
WARRANTY	- Two years on non-consumable components - One year on sensor, fan, 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 Available with Industrial Hygiene configurations only.

4 Specifications are subject to change.

ORDERING INFORMATION (MODEL: PGM-1820)

- Wireless or non-wireless versions are available[1]

- Bulk packages of 10 units are available

- Refer to the Portables Pricing Guide for part numbers for monitors, accessories, maintenance kits, gas, sensors, and replacement parts

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RAE SYSTEMS®

ToxiRAE Pro PID

Personal Wireless Monitor For Volatile Organic Compounds

The ToxiRAE Pro PID is the world's smallest volatile organic compound (VOC) monitor. Featuring Honeywell RAE Systems PID sensor, the ToxiRAE Pro PID can quickly detect and accurately monitor over 300 VOCs. The ToxiRAE Pro PID provides safety professionals wireless remote access to real-time instrument readings and alarm status for better visibility and faster incident response[1]. With an onboard library of 190 correction factors, the ToxiRAE Pro PID can be programmed to automatically read in equivalent units of the specified compound.

- Wireless elevates safety to the next level
- Available in Industrial Hygiene (advanced) or Safety (basic) configurations
- Man Down Alarm with real-time remote wireless notification
- Easy to maintain with replaceable sensor, fan, filter, and battery
- Fully automatic bump testing and calibration with AutoRAE 2[2]

Applications
- Industrial hygiene and safety
– Chemical plants
– Government health, safety, security, and environmental agencies
– Hazardous materials teams, first responders
– Oil and gas
– Pharmaceutical plants
- Environmental applications
– Environmental consulting
– Soil remediation

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

ToxiRAE Pro PID Comes With:
- ToxiRAE Pro PID 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
- Combined instrument/sensor cap removal tool
- Calibration card, quality certificate, and warranty/registration card

FEATURES & BENEFITS

- Wireless access to real-time instrument readings and alarm status from any location
- Unmistakable five-way local and remote wireless notification of alarm conditions
- Largest display in its class
- Continuous datalogging[3]
- On-board correction factor library for 190 compounds
- Easy to use
- Reliable, rugged, and intrinsically safe
- Device Management with Honeywell SafetySuite

ToxiRAE Pro PID Personal Wireless Monitor for volatile Organic Compounds

SPECIFI CATIONS[4]	
SIZE	4.6" H x 2.4" W x 1.2" D (118 x 60 x 30 mm)
WEIGHT	8.29 oz. (235 g)
SENSORS	Photoionization sensor with 10.6 eV (standard) or 9.8 eV[2,3] (optional) lamp. Response time (T_{90}) < 15 sec. (Isobutene). Field-replaceable sensor. Easy access to lamp for cleaning
DETECTABLE GASES	A wide variety of ionizable chemicals using 190 built-in and over 300 published correction factors
BATTERY	Rechargeable Li-ion battery - Operating time: > 12 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 VOC concentrations in parts per million 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	Internal fan
CALIBRATION	Automatic with AutoRAE 2 Test and Calibration System[2] or manual
ALARM MODES	- Wireless remote alarm notification[1]; 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[3] 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[1] 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 PID to Mesh Router, EchoView Host, or Mesh Reader[2] ~ 330 feet (100 meters) ToxiRAE Pro PID 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)
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: C E ⟨Ex⟩, 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 - One year on all other sensors, battery, and other consumable parts

ORDERING INFORMATION (MODEL: PGM-1800)

- Industrial Hygiene (advanced) and Safety (basic) configurations are available

Industrial Hygiene configurations:

– Advanced PID sensor (0.1 to 2,000 ppm; 0.1 ppm resolution)

– Datalogging

– 9.8 eV or 10.6 eV lamp options

Safety configurations:

– 10.6 eV; 1 to 1,000 ppm; 1 ppm resolution PID

– No datalogging

– 10.6 eV lamp only

- Wireless or non-wireless versions are available[1]

- Refer to the Portables Pricing Guide for part numbers for monitors, accessories, maintenance kits, gas, sensors, and replacement 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 Available with Industrial Hygiene configurations only

4 Specifications are subject to change

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