RAE SYSTEMS by Honeywell

MultiRAE MX

Wireless Portable Multi-Gas Monitor

The MultiRAE MX is the only one- to six-gas wireless monitor that is both ATEX Performance approved and MED (Wheelmark) certified. The MultiRAE MX wireless version can be utilized in confined spaces and transmit sensor readings and Man Down alarms to an attendant via a RAE Systems EchoView Host and connect directly to ProRAE Guardian monitoring software.

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 including Man Down Alarm[2]
- Over 25 interchangeable sensor options, including NDIR[4] and catalytic for combustibles
- Intelligent sensors store calibration data, so they can be swapped in the field[5]
- Large graphical display with easy-to-use, icon-driven user interface
- Continuous datalogging (6 months for 5 sensors, 24x7)

APPLICATIONS

- Personal protection and multi-gas leak detection in industries such as:
  - Chemical
  - Food and beverage
  - Oil and gas (downstream)
  - Pharmaceutical
  - Telecommunications
  - Wastewater treatment
- Marine:
  - Bilge inspection and cleaning
  - Tanker pump room monitoring
  - LEL ignition sources
  - O_2 levels in cargo ships
  - Bulkhead glands monitoring

- **Available in pumped and diffusion versions**
- **Highly versatile and customizable**
- **Man Down Alarm with real-time remote wireless notification**
- **Easy maintenance with replaceable sensors, pump, and plug-and-play battery**
- **Fully automatic bump testing and calibration with AutoRAE 2**

MultiRAE MX provides reliable monitoring in a variety of marine applications

Wireless AutoRAE 2 Compatible ISO 9001 CERTIFIED ATEX IECEx FCC

MultiRAE MX

Wireless Portable Multi-Gas Monitor

SPECIFICATIONS

Instrument Specifications[6]

Size	- Pumped model: 7.6" H x 3.8" W x 2.6" D (193 x 96.5 x 66 mm) - Diffusion model: 6.9" x 3.8" x 2.2" (175 x 96.5 x 56 mm)
Weight	- Pumped model: 31 oz (880 g) - Diffusion model: 26.8 oz (760g)
Sensors	Over 25 intelligent interchangeable field-replaceable sensors including electrochemical sensors for toxic gases and oxygen, combustible LEL and NDIR sensors
Battery Options, Runtime[7] and Recharge Time	- Rechargeable Li-ion ~12-hr. (pumped)/18-hr. (diffusion) runtime, < 6-hr. recharge time - Extended duration Li-ion ~18-hr. (pumped)/28-hr. (diffusion) runtime, < 9-hr. recharge time - Alkaline adapter with 4 x AA batteries ~6-hr. (pumped)/8-hr. (diffusion) 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; 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
Keypad Buttons	3 operation and programming keys (Mode, Y/+, and N/-)
Sampling	Built-in pump or diffusion
Calibration	Automatic with AutoRAE 2 Test and Calibration System[3] or manual
Alarms	Wireless remote alarm notification; 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[2]
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, instrument set-up and upgrades on PC via desktop charging and PC comm. cradle, travel charger, or AutoRAE 2 Automatic Test and Calibration System[3] - Wireless data and alarm status transmission via built-in RF modem (optional)
Wireless Network	ProRAE Guardian Real-Time Wireless Safety System or EchoView Host-based Closed-Loop System
Wireless Frequency and Approvals[10]	ISM license-free band, 868MHz or 900MHz FCC Part15, CE R&TTE, ANATEL
Wireless Range (Typical)	MultiRAE MX to RAELink3 [Z1] Mesh modem ~330 feet (100 meters) MultiRAE MX to EchoView Host, RAEMesh Reader or RAEPoint ~660 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 (pumped); IP-67 (diffusion) ingress protection rating
Hazardous Location Approvals	ATEX: 0575 II 1G Ex ia IIC T4 Ga 2G Ex ia d IIC T4 Gb with IR Sensor installed IECEx: Ex ia IIC T4 Ga Ex ia d IIC T4 Gb with IR Sensor installed
CE Compliance (European Conformity)	EMC directive: 2004/108/EC. R&TTE directive: 1999/5/EC. ATEX directive: 94/9/EC
MED Compliance (Wheelmark)	MED directive: 96/98/EC and amending directive (8th) 2012/32/EU
EMI/RFI[7]	No effect when exposed to 0.43mW/cm^2 RF interference from a 5-watt transmitter at 12" (30cm)
Performance Tests	LEL CSA C22.2 No. 152; ISA-12.13.01 ATEX performance, combustible gases: FTZU 13 ATEX 0196X, EN60079-29-1:2007 and EN 50271:2010 Performance, Toxic gases and Oxygen: FTZU 14 Ex 0008, EN 45544-1-2-3: 1999, EN 50104:2010 and EN 50271:2010 for specified sensors LEL: NDIR is only performance tested for Propane (C_3H_8)
Warranty	- Three years on O_2 liquid oxygen sensor - Two years on non-consumable components and catalytic LEL, H_2S and CO sensors. - One year on all other sensors, pump, battery, and other consumable parts

Sensor Specifications[6]

Combustible Sensors	Range	Resolution
Catalytic LEL[9] NDIR(0-100% Vol Propane)[9]	0 to 100% LEL 0 to 100% VOl.	1% LEL 0.1% Vol.
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[8]	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	0.05 ppm
Hydrogen (H_2)[8]	0 to 1,000 ppm	2 ppm
Hydrogen Cyanide (HCN)	0 to 50 ppm	0.5 ppm
Hydrogen Sulfide (H_2S) Hydrogen Sulfide (H_2S), Ext. Range[8]	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 (liquid O_2)[9]	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 A two-gas combination sensor is required for a 6-gas configuration.
2 Additional equipment and/or software licenses may be required to enable remote wireless monitoring and alarm transmission.
3 AutoRAE 2 supports the MultiRAE MX pumped version only.
4 NDIR combustible sensors require a pumped configuration in CSA countries.
5 RAE Systems recommends calibrating sensors on installation.
6 Specifications are subject to change.
7 Specification for non-wireless monitors.
8 Supported in MultiRAE MX Diffusion only.
9 MultiRAE MX must be ordered with at least 1 of these 3 sensors. Please refer to the user's guide.
10 Please contact RAE Systems for specific wireless approvals.

ORDERING INFORMATION (MODELS: PGM-6228 AND PGM-6228D)

- Wireless[2] and non-wireless configurations are available
- Refer to the Portables Pricing Guide for part numbers for monitors, accessories, sampling and calibration kits, gas, sensors, and replacement parts

Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.

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