MultiRAE IR

CO$_2$ One-to-Five Gas Monitor with VOC Detection

The MultiRAE IR is an extremely flexible one-to-five sensor instrument for use in indoor air quality, industrial hygiene, and many other monitoring applications. The MultiRAE IR is the only instrument available on the market today that can offer protection using both standard gas detection sensors for the detection of oxygen, combustible gas, and specific toxic gases, newly developed NDIR sensor to measure CO$_2$, as well as an integrated, uniquely patented Photo-Ionization Detector (PID) for the ultimate in broad-range toxic gas detection. The MultiRAE IR's versatility allows it to replace a wide range of monitors, saving training and maintenance costs. The MultiRAE IR is quickly and easily changed from a sophisticated technician instrument to a simple text or display only monitor. The same monitor can be used as a personal monitor, a hand-held sniffer, or as a continuous operational area monitor.

Advanced Features

- Rugged weather-proof composite case
- Visual alarm with flashing LED
- Automatic liquid trap protection for pump
- Any plug-in "smart" toxic sensors:
  CO, H$_2$S, SO$_2$, NO, NO$_2$, Cl$_2$, HCN, NH$_3$, PH$_3$
- Programmable alarms can be

changed on the MultiRAE IR or from easy-to-use Windows 3.1, 95, 98 and NT software

- Newly developed 4RL-size non-dispersive infrared (NDIR) CO$_2$ sensor with 10ppm CO$_2$ resolution
- Built-in sample draw pump in multi-gas detector
- Large digital display
- Loud audible alarm with varying tones for different alarm conditions and an optional remote vibration alarm for noisy areas
- 12 hours of continuous monitoring with rechargeable Li+ battery pack
- Easy one-button calibration
- Continous monitoring of carbon dioxide, specific toxic gas and VOC concentration in parts per million (ppm), oxygen and combustible gas in percent (%)
- 4000 point datalgging storage capacity for download to PC

Applications

- Indoor Air Quality
- Beverage and brewery
- Food Industry
- Hospitals
- Aviation ship compartment
- Respirable breathing air testing

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RAE SYSTEMS

Specifications

Sensor Specifications

Gas Monitor	Range	Resolution	Response Time (t_{90})
Carbon Dioxide	0 ~ 20,000 ppm	10 ppm	60 seconds
Oxygen	0 ~ 30%	0.1%	15 seconds
Combustible gas	0 ~ 100% LEL	1%	15 seconds
VOCs	0 ~ 200 ppm	0.1 ppm	10 seconds
	200 ~ 2000 ppm	1 ppm	10 seconds
Carbon Monoxide	0 ~ 500 ppm	1 ppm	20 seconds
Hydrogen Sulfide	0 ~ 100 ppm	1 ppm	30 seconds
Sulfur Dioxide	0 ~ 20 ppm	0.1 ppm	15 seconds
Nitric Oxide	0 ~ 250 ppm	1 ppm	20 seconds
Nitrogen Dioxide	0 ~ 20 ppm	0.1 ppm	25 seconds
Chlorine	0 ~ 10 ppm	0.1 ppm	60 seconds
Hydrogen Cyanide	0 ~ 100 ppm	1 ppm	60 seconds
Ammonia	0 ~ 50 ppm	1 ppm	150 seconds
Phosphine	0 ~ 5 ppm	0.1 ppm	60 seconds

Detector Specifications

Size	4.65"L x 3.0"W x 1.9"H (11.8 cm x 7.6 cm x 4.8 cm)
Weight	16 oz with battery (454 g)
Detector	Non-dispersive infrared sensor for CO_2, Protected catalytic bead for combustible gas. Interchangeable electrochemical sensors for oxygen and toxic gases. Photo-ionization detector for VOCs (10.6 eV, 9.8 eV and 11.7 eV lamps)
Battery	standard Rechargeable, Lithium-ion battery pack 4 AA alkaline battery adapter Field replaceable. Smart battery charger: Up to 12 hours through built-in or external charger. Includes deep discharge option.
Operating Hours	12 hours continuous Unit will run and charge simultaneously
Display	2 line, 16 digit LCD with LED back light automatically in dim light or alarm condition
Keypads	1 operation key and 2 programming keys
Attachment	Wrist strap and high visibility rubber boot
Direct Readout	Instantaneous (up to 5) values: Oxygen as percentage by volume Combustible gas as percentage of lower explosion limit (LEL), Toxic gas, VOC and CO_2 as parts per million by volume Peak values for all gases. STEL and TWA values of toxic gas, VOC and CO_2. Battery and shut down voltage. Date, time, elasped time, temperature LEL/VOC scale (using correction factors).
Calibration	Two point field calibration for zero and span gas
Alarm	90 dB buzzer and flashing red LED to indicate exceeded preset limits High - 3 beeps and flashes per second Low - 2 beeps and flashes per second STEL and TWA - 1 beep and flash per second Alarms latching with manual override or automatic reset Additional diagnostic alarm and display message for low battery and pump stall
Sampling Pump	Internal pump, flow rate 150 cc/min.
Datalogging	20,000 points (64 hours, 5 channels at one minute intervals) download to PC with serial number of unit, user ID, site number, calibration date
Datalogging Interval	1 - 3600 seconds, programmable
Humidity	0% to 95% relative humidity (non-condensing)
Temperature	-4° to 113° F (-20° to 45°C)

MultiRAE IR Accessories

Monitor only includes

- Monitor as specified
- Sensors as specified
- Shipping Case
- Carbon filters *(for units with CO)*
- Calibration adapter
- Operation and maintenance manual
- Rubber boot with belt-clip
- Alkaline battery adapter
- Rechargeable units additionally include:
  — Lithium-ion (Li-ion) battery
  — 120 V AC/DC Wall Adapter (if specified)
- Pumped units additionally include:
  — 10 Water trap filters
  — Inlet probe 3"
  — Water trap adapter

Monitor with Accessories Kit also includes:

- Hard transport case with pre-cut foam
- 15' (5 m) sample tubing
- Lamp Cleaning Kit (for detectors which include PID)

Optional Calibration Kit also include:

- Four-gas mix in a 34L cylinder; *(50% LEL, 20.9% O_2, 5000 ppm Carbon Dioxide, 50 ppm Carbon Monoxide)*
- Calibration regulator (male) and tubing
- Isobutylene gas in a 34L cyclinder;
- Calibration regulator (female) and tubing

Datalogging Monitors also include:

- Software, ProRAE Suite Package for Windows™ 95, 98 & NT
- Computer Interface cable

Warranty: Lifetime on non-consuming components (per RAE Standard Warranty), 2 years for CO_2, O_2, LEL, CO and H_2s sensors, 1 year all other sensors, 1 year pump, 1 year battery, 1 year for 10.6 eV PID lamp

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D I S T R I B U T E D B Y :