MeshGuard

**RAE Systems by Honeywell
Battery-Powered Wireless
Gas Detector**

MeshGuard
Battery-Powered Wireless Gas Detector

Key Features

- Self-forming wireless network; units come online automatically
- Compact and lightweight
- IP-65 rated weather resistant, and splash guard equipped for sensor protection
- Multiple controller options for real-time wireless data collection and viewing
- Self-healing network automatically routes data back to controller through best wireless path available
- Battery powered operation for up to 6 months
- SolarPak provides 24/7 uptime
- Intrinsically Safe
- Magnetic mounting option for quick and easy MeshGuard installation

Applications

- Oil and gas drilling operations
- Oil and gas production
- Plant maintenance turnarounds
- Industrial safety
- Tank farms
- Shipyards and maritime

The RAE Systems by Honeywell MeshGuard gas detection monitor is a key building block of the MeshGuard intelligent network of connected sensors for gas detection in industrial safety and oil and gas applications.

The MeshGuard system is designed for quick deployment in areas where low cost/high ROI solutions are required.

MeshGuard is available with field-replaceable precision sensors specifically designed to sense toxic and flammable gases.

- Fastest deployment and decommissioning time
- Simple to install and operate
- Rugged and reliable
- Versatile to accommodate many applications

MeshGuard wireless gas detectors are designed for use in the harshest outdoor environments such as drilling rigs and in other industrial applications

MeshGuard
Battery-Powered Wireless Gas Detector Specifications

Specifications

Sensor Specifications*

Sensor	Range	Resolution	Response Time
H_2S	0 to 100 ppm	0.1 ppm	T90 < 30 sec T10 < 30 sec
LEL / LEL IR	0 to 100%	1%	T90 < 30 sec T10 < 30 sec
CO	0 to 2000 ppm	1 ppm	T90 < 30 sec T10 < 30 sec
O_2	0 to 25%	0.1%	T90 < 15 sec T10 < 15 sec
NH_3	0 to 100 ppm	1 ppm	T90 < 90 sec T10 < 200 sec
Cl_2	0 to 10 ppm	0.1 ppm	T90 < 30 sec T10 < 30 sec
SO_2	0 to 20 ppm 0 to 100 ppm	0.1 ppm	T90 < 60 sec T10 < 60 sec

*Other sensors: contact RAE Systems

Detector Specifications

Basic parameters	
Visual Alarm	2 super-bright red LEDs
Audible Alarm	90dB @ 30cm
Calibration	Two-point field calibration
RF Frequency	2.4GHz ISM Band, IEEE 802.15.4 standard compliant
Operating Range	300 meters / 985 feet (line of sight)
Keypad	Three operation and programming keys
Display	Customised LCD (1" x 1.5"/ 72mm x 108mm) with backlight
Power Supply	Disposable Lithium Battery, +3.6V (optional rechargeable external battery for extended run time)
Operating Time	Toxic Gas Sensors: Up to 6 months on internal battery (up to 1 year on external LEL Gas Sensor: Up to 21 days on external PowerPak battery LEL IR Gas Sensor: Up to 2 months on internal battery** (up to 1 year on external)
IP Rating	IP-65

Environmental parameters	
Operating Temperature	-40° C to +50° C (-40° F to 122° F) for LEL, LEL IR, CO and H_2S sensors Other sensors: -20° C to +50° C (-4° F to 122° F)
Humidity	5% to 95% relative humidity, non-condensing

Physical parameters	
Size	26.5cm x 9.5cm x 5.5cm (10.5" L x 3.7" W x 2.1" H)
Weight	0.6kg (1.3 lbs)

Certifications	
Certifications	US and Canada: CID1, Groups A, B, C, D, T4 Europe: ATEX IM1/II 1G Ex ia I/IIC T4 IECEx Ex ia I/IIC T4 Contact Honeywell for country-specific certification
Wireless Frequency	ISM license free band. IEEE 802.15.4 2.4 GHz
Wireless Approvals	FCC Part 15, CE R&TTE, Others***
Radio Module	Supports RM2400A

*Specifications are subject to change
**MeshGuard LEL IR units operating in temperatures below -20°C (-4°F) may require a PowerPak external battery for extended runtimes
***Contact Honeywell Analytics for country specific wireless approvals and certificates

MeshGuard Ordering Information

MeshGuard Detector Includes:

- MeshGuard detector with sensor as specified
- Operation and maintenance manual
- Calibration gas test adapter
- High-capacity Lithium battery installed
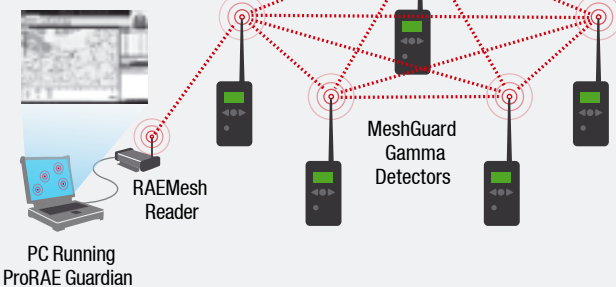- Maintenance tool

Mesh Guard System Configuration Options

FMC 2000 Controller
Supports up to 24 MeshGuard Gamma Detectors

FMC 2000 Controller

MeshGuard Gamma Detectors

PC Controller
Supports up to 500+ MeshGuard Gamma Detectors

RAEMesh Reader

PC Running ProRAE Guardian

MeshGuard Gamma Detectors

MeshGuard inside protective stainless-steel housing

RAE PowerPak External Battery

Wireless

ISO 9001 CERTIFIED · ATEX · CSA us · IECEx · CE · FCC

RAE Systems by Honeywell MeshGuard monitors detect a wide range of gases and quickly relay their data to a central controller in a self-forming, self-healing mesh radio network.

MeshGuard is rapidly deployable in industrial and remote monitoring applications. All detectors are certified for the most hazardous environments—Class I, Division 1 or Zone 0. A variety of accessories are available for use with the MeshGuard wireless gas detection system.

RAE PowerPak

The RAE PowerPak is a rechargeable, external battery used to extend the run time of MeshGuard detectors.

- Powerpak is Class I, Division 1 (Zone 0) certified
- Hot swappable in the field
- PowerPak can operate an LEL detector for 20+ days, or an electrochemical sensor for 18+ months

PowerPak connected to MeshGuard monitor. Monitor is shown in protective stainless-steel housing, secured with included hardware.

Specifications

Size	14.25" H x 10.2" W x5.75" D (36.2cm x 26cm x 14.6 cm)
Weight	15kg (33 lbs) with four internal batteries
Operating Temperature	-40° C to +55° C (-40° F to 131° F)
Certifications	US and Canada: Class I, Division 1, Groups A, B, C,D, T4 Europe: ATEX IM1/II 1G Ex ia I/IIC T4 IECEx Ex ia I/IIC T4 Contact manufacturer for country-specific certification

*Specifications are subject to change.

Mesh Router

The Mesh Router allows wireless sensor networks to be deployed at greater distances from a central controller. MeshGuard Monitors and Routers work together to find the best possible transmission path for the sensor readings. The MeshRouter displays the realtime wireless signal strength at any given location, which enables rapid determination of suitable locations for MeshGuard Monitors.

The Mesh Router is a Class I, Division 1 (Zone 0) portable wireless device that has two primary functions:

1. To extend the wireless transmission range between points.

2. As a system deployment tool. Prior to deploying detectors, the Mesh Router can provide real-time signal strength at any given location.

The Mesh Router can operate continously for 10+ days with an internal battery or 45+ days with an external PowerPak.

Range Extension with Mesh Routers

990ft (300m)   990ft (300m)

ONLINE

FMC 2000 Controller

Mesh Router

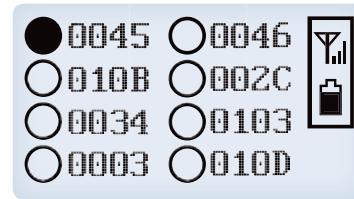Detectors

Mesh Reader

RAE Mesh Reader

The RAEMesh Reader is a device that allows the use of PC (instead of dedicated controller) to monitor wireless detectors in real time.

- The RAE Mesh Reader receives data wirelessly from remote detectors, and pushes data to ProRAE Guardian software running on a PC
- The RAE Mesh Reader can push data directly to a PC via RS232, or to a remote PC via ethernet
- The RAE MeshReader is designed to be located in non-hazardous, indoor locations. An optional outdoor antenna with a 10m (30ft) cable can be used to extend the usage to outdoor locations

EchoView

The RAE Systems by Honeywell EchoView is a portable, intrinsically safe (Class I, Division 1 and Zone 0) alarm notification device that allows you to monitor your sensor network remotely. It displays the sensor readings of up to 16 MeshGuard Monitors on a wireless network and retrieves all monitor information that is typically viewed on the system controller.

- Class I, Division 1 (Zone 0) certified
- Allows users to be away from the controller and still be notified of alarm conditions
- The EchoView gets all sensor readings directly from the controller
- 10+ days run time with internal battery, 45+ days run-time with external PowerPak

Honeywell Analytics Gas Detection

Honeywell Analytics is able to provide gas detection solutions to meet the requirements of all applications and industries. Contact us in the following ways:

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Honeywell Analytics
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