RAE Systems by Honeywell
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.

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*

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Range</th>
<th>Resolution</th>
<th>Response Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₂S</td>
<td>0 to 100 ppm</td>
<td>0.1 ppm</td>
<td>T90 &lt; 30 sec, T10 &lt; 30 sec</td>
</tr>
<tr>
<td>LEL / LEL IR</td>
<td>0 to 100%</td>
<td>1%</td>
<td>T90 &lt; 30 sec, T10 &lt; 30 sec</td>
</tr>
<tr>
<td>CO</td>
<td>0 to 2000 ppm</td>
<td>1 ppm</td>
<td>T90 &lt; 30 sec, T10 &lt; 30 sec</td>
</tr>
<tr>
<td>O₂</td>
<td>0 to 25%</td>
<td>0.1%</td>
<td>T90 &lt; 15 sec, T10 &lt; 15 sec</td>
</tr>
<tr>
<td>NH₃</td>
<td>0 to 100 ppm</td>
<td>1 ppm</td>
<td>T90 &lt; 90 sec, T10 &lt; 200 sec</td>
</tr>
<tr>
<td>Cl₂</td>
<td>0 to 10 ppm</td>
<td>0.1 ppm</td>
<td>T90 &lt; 30 sec, T10 &lt; 30 sec</td>
</tr>
<tr>
<td>SO₂</td>
<td>0 to 20 ppm, 0 to 100 ppm</td>
<td>0.1 ppm</td>
<td>T90 &lt; 60 sec, T10 &lt; 60 sec</td>
</tr>
</tbody>
</table>

*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 PowerPak battery)
- LEL, LEL IR, CO: Up to 30 days on PowerPak battery
- Other Sensors: Up to 2 months on internal battery** (up to 1 year on external PowerPak battery)

Environmental parameters

- Operating Temperature: -40° C to +50° C (-40° F to 122° F) for LEL, LEL IR, CO and H₂S 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

- US and Canada: CID 1, Groups A, B, C, D, T4
- Europe: ATEX II 1G Ex ia IIC T4
- IECEx Ex ia 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

PC Controller
Supports up to 500+ MeshGuard Gamma Detectors

RAEMesh Reader

MeshGuard inside protective stainless-steel housing

RAE PowerPak External Battery
MeshGuard Accessories
Tools that enhance your MeshGuard monitoring network

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

<table>
<thead>
<tr>
<th>Specifications</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>14.25&quot; H x 10.2&quot; W x 5.75&quot; D (36.2cm x 26cm x 14.6 cm)</td>
</tr>
<tr>
<td>Weight</td>
<td>15kg (33 lbs) with four internal batteries</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40° C to +55° C (-40° F to 131° F)</td>
</tr>
</tbody>
</table>
| 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 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 continuously for 10+ days with an internal battery or 45+ days with an external PowerPak.
MeshGuard Accessories
Tools that enhance your MeshGuard monitoring network

Mesh Reader
RAE Mesh Reader
The RAE Mesh 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 is able to provide gas detection solutions to meet the requirements of all applications and industries. Contact us in the following ways:

**Headquarters**

**Europe, Middle East, Africa**

Life Safety Distribution AG
Javastrasse 2
8604 Hegnau
Switzerland
Tel: +41 (0)44 943 4300
Fax: +41 (0)44 943 4398
gasdetection@honeywell.com

Customer Service:
Tel: 00800 333 222 44 (Freephone number)
Tel: +41 44 943 4380 (Alternative number)
Fax: 00800 333 222 55
Middle East Tel: +971 4 450 5800 (Fixed Gas Detection)
Middle East Tel: +971 4 450 5882 (Portable Gas Detection)

**Americas**

Honeywell Analytics Distribution Inc.
405 Barclay Blvd.
Lincolnshire, IL 60069
USA
Tel: +1 847 955 8200
Toll free: +1 800 538 0363
Fax: +1 847 955 8210
detectgas@honeywell.com

**Asia Pacific**

Honeywell Analytics
Asia Pacific
#701 Kolon Science Valley (1)
43 Digital-Ro 34-Gil, Guro-Gu
Seoul 152-729
Korea
Tel: +82 (0) 2 6909 0300
Fax: +82 (0) 2 2025 0328
India Tel: +91 124 4752700
analytics.ap@honeywell.com

**Technical Support Centres**

Honeywell Analytics Ltd.
4 Stinsford Road
Nuffield Industrial Estate
Poole, Dorset, BH17 0RZ
United Kingdom
Tel: +44 (0) 1202 645 544
Fax: +44 (0) 1202 645 555

Honeywell Analytics
ZAC Athélie 4 - 375 avenue du Mistral
Bât B, Espace Mistral
13600 La Ciotat
France
Tel: +33 (0) 4 42 98 17 75
Fax: +33 (0) 4 42 71 97 05

Honeywell Analytics
Eisenheimerstrasse 43
80687 München
Germany
Tel: +49 89 791 92 20
Fax: +49 89 791 92 43

EMEA: HAexpert@honeywell.com
US: ha.us.service@honeywell.com
AP: ha.ap.service@honeywell.com

www.honeywellanalytics.com
www.raesystems.com

**Honeywell Analytics**

Experts in Gas Detection

Please Note:
While every effort has been made to ensure accuracy in this publication, no responsibility can be accepted for errors or omissions. Data may change, as well as legislation, and you are strongly advised to obtain copies of the most recently issued regulations, standards, and guidelines. This publication is not intended to form the basis of a contract.

© 2015 Honeywell Analytics