

HONEYWELL BW™ NEXT GENERATION MULTI-GAS PLATFORM

Streamlining Multi-Gas Detection
#MAKEMESAFER

TABLE OF CONTENTS

2 Introduction

3 Challenges

4 Solutions

Honeywell BW™ Icon

Honeywell BW™ Icon+

Honeywell BW™ Flex

Who Is It For?

8 Industries of Opportunity

9 Conclusion

INTRODUCTION

Within the high-risk industrial space there is an increased emphasis and urgency toward transitioning to a culture focused on safety. While compliance guidelines have been in place, industrial environments continue to have significant hazards. Honeywell has been actively leading a shift in safety culture; it is not enough to only be compliant—every worker deserves to have enhanced gear at their disposal to improve safety.

One of the main initiatives of this cultural shift is transitioning facilities from single-gas compliance detectors to multi-gas detectors to increase protection for workers. Until now, there has been a safety divide between full-time workers and independent contractors, with full-time employees receiving multi-gas detectors while independent contractors are stuck with single-gas detectors, largely due to cost. To address this issue Honeywell has been developing a product platform that is directly suited to equipping all workers—full-time, part-time and independent contractors—with multi-gas detectors, rather than single-gas detectors.

The BW Next Generation Multi-Gas Platform consists of several multi-gas detectors to meet customer needs. Each detector is designed for simplicity and ease of use. This includes the use of icons for quick, identifiable readings of gas alarms and device status; up to two-month battery run-time so workers don't have to worry about their device shutting down on the job. These new products feature some of the smallest, most lightweight and rugged designs in the industry for increased portability, comfort and durability. Finally, each product in this platform is equipped with Bluetooth-enabled configuration and reporting through Honeywell's Device Configurator app for faster set up and greater convenience.

These advances in gas detection technology help provide increased protection to all equipped workers. Although they may work in dangerous environments, they can be better protected from a variety of threats.

CHALLENGES

1

Workers within the high-risk industrial space face daily hazards in the facilities where they work. Many of these workers—especially independent contractors—utilize a single-gas detector for safety. While these detectors are compliant, they still leave workers vulnerable to other dangerous gases that may be present.



The shift toward multi-gas detectors stems in part from deadly refinery explosions, such as the Chevron Plant in Wales where an explosion occurred, killing four workers and causing a fifth worker to suffer extreme, life-altering burns. These workers encountered flammable gases while emptying a chemical storage tank. Single portable gas detectors were being utilized during the explosion. If they had been equipped with multi-gas detectors, the explosion might have been avoided and lives would have been saved. So why didn't they have multi-gas detectors? The workers killed and injured in that explosion were all independent contractors.

Honeywell's BW Next Generation Multi-Gas Platform of portable gas detectors seeks to provide a solution for this issue. All workers deserve to be protected to the fullest extent possible while performing work in dangerous environments. However, cost is often a significant obstacle. Independent contractors are purchasing detectors with their own funds—they cannot always afford the most recent model, even if it's in their best interest. In addition, safety managers who are looking to equip their teams with detectors must ensure that their plan fits into their budget. This can leave workers on the front lines at risk while they continue to use single-gas detectors.

As the culture in these industries shifts toward safety, there is no room for multi-gas protection to be a luxury purchase for workers—whether full-time, part-time or independent contractors. Safety should not be cost-prohibitive and the confidence that comes with using enhanced protection at work should be accessible to everyone in hazardous work environments. However, the gap between this line of thinking and the reality of how much the highest-quality technology costs must be reconciled.

1.1 million

FATALITIES

According to the International Labour Organization (www.ilo.org) there are 1.1 million workplace fatalities worldwide, a quarter of these are a result of exposure to hazardous substances

16%

EQUIPPED

It is estimated that only 16% of workers across the world who require a gas detector have access to one today

The BW Next Generation Multi-Gas Platform developed by Honeywell, solves the problem of both quality and cost. In this field, affordability should not mean compromising reliability or safety—Honeywell’s design team has made that their top priority.

The Honeywell BW™ Icon, Honeywell BW™ Icon+ and the Honeywell BW™ Flex are the new models of the BW Next Generation Multi-Gas Platform. Each product is designed for a consistent user experience—anyone switching from a previous Honeywell BW detector or any portable gas detector will be able to quickly learn and operate their new multi-gas detector.

HONEYWELL BW ICON

The BW Icon is a two-year fixed life, four gas detector utilizing a compact yet rugged design. This product, engineered with consistency in mind, can be charged using existing Honeywell gas detector chargers or a USB charger that is supplied with the device—this includes the ability to charge the device in vehicles through the USB functionality.

The BW Icon uses Bluetooth connectivity that allows integration with Safety Suite and third party devices. The detector and Safety Suite work together to create a complete safety solution. Safety Suite allows the user to manage their fleet of Honeywell portable gas detectors and docks easily, reducing the stress of administration and streamlining compliance. The focus can remain on keeping people safe, rather than busy work.

The BW Icon holds the most recent 50 event logs to be reviewed within Safety Suite, as well as 50 days of data logs based on a 15 second data log cycle. In addition to reviewing this data, the BW Icon can also work together with the Device Configurator (DC) app to carry out a manual bump/calibration.

True to its name, the BW Icon’s user interface is icon-driven, allowing each user to get an immediate status update with a quick glance—this display is an important innovation in the industry. Eight icons (see graphic to the right) display alarm conditions and device status. Quick, efficient visual notifications allow workers to stay focused on their job while maintaining awareness and safety standards. With just one button, the BW Icon emulates and evolves the legacy of BW products, maintaining the same DNA from previous devices and flattening the learning curve for users—especially those migrating from the Honeywell BW™ Clip gas detector.

Although the BW Icon is the most affordable model of the Honeywell BW Next Generation Multi-Gas Platform, it still provides versatility for workers.



Honeywell BW Icon



ALARM ONE

Shows when alarm one is breached and gas highlighted next to sensor



ALARM TWO

Shows when alarm two is breached. Alarm two will overwrite any alarm one status

TWA TIME WEIGHTED AVERAGE

Settable in Safety Suite DC for each toxic sensor

STEL SHORT TERM EXPOSURE LIMIT

Settable in Safety Suite DC for each toxic sensor

Four sensors are standard and available in two different configurations CO/H₂S/O₂ and IR LEL or SO₂/H₂S/O₂ and IR LEL. Honeywell continues to work closely with City Technology and Elichens to have a new 1-series platform of sensors that are based on the proven design of the SureCell.

This partnership and evolving technology allows for a compact design and extended temperature ranges that support new markets and applications. The BW Icon uses an analogue sensor, while the rest of the BW Next Generation Multi-Gas Platform detectors have the ability to utilize digital sensors.

The BW Icon uses IntelliDoX, an automated instrument management system that combines smart docking stations and device management software, to provide automated instrument management for compatible detectors. It has been developed to help drive productivity, reliability and efficiency taking less than two minutes from setup of a five module dock to the bump of the first instrument. Each module has its own operating system, LCD screen and internal pump allowing users to perform more than one operation at the same time.

Whether users want to bump three detectors or calibrate others—they can get more done in less time. In addition, the BW Icon is designed to accommodate external filters for quick maintenance. In the past, these external filters had to be removed before testing the device, a frustration for customers as the device would pass the test, but often dirty external filters would not be tested. With the new innovative design, users can now test with the external filter on, allowing for a true read from the device.

Versatility is key for users as they suit up in the field or for their dangerous work environment—they need their detector to fit well with their gear and equipment. The Klick Fast solution allows users to order from a wide range of accessories to ensure the device is easily and securely attached in the most appropriate position for the different daily tasks required.

The BW Icon is similar in size to a cell phone, allowing workers to easily clip it on where necessary.

The BW Icon has been designed to make platform serviceability as easy as possible. It utilizes a modular design, making maintenance and servicing fast, simple and convenient.

HONEYWELL BW ICON+

The BW Icon+ builds on the innovations of the BW Icon. It shares many of the same features and benefits which ensures a consistent user experience across the platform, including the first-of-its-kind icon-based display. The BW Icon+ leverages the same design as the Icon and is fully serviceable with an open-ended life.

There are several modifications that help to create an enhanced safety experience for users. The BW Icon+ allows for full flexibility by utilizing a wide range of intelligent sensors for predictive maintenance. The 1-series sensors are offered in both analogue and digital format for the Icon+, supporting use across multiple verticals and segments. The Icon+ offers a choice of eight sensors that can be tailored to a specific work environment. Some key features and benefits of these digital 1-series sensors include:

- **Pre-calibrated** – Sensors are calibrated during manufacturing and the calibration data is written in the sensor. The sensor will output gas concentration when queried by instrument. Characterization of sensors in instruments is used to generate correction factors to apply to the gas reading for that instrument and, if necessary, position within the instrument.
- **OEM lock** – Sensors can have an OEM-specific code programmed, which is written during manufacture and cannot be modified. Instruments can check if the sensor has the unique code—if not, the sensor has not been sourced through them and the instrument can refuse the sensor.



BUMP ICON

Shows when bump is due and you can configure to have a countdown



CALIBRATION ICON

Shows when bump is due and you can configure to have a countdown



BATTERY STATUS

Shows battery status and when on charge will show charging status



BLUETOOTH

All devices have Bluetooth
– double-click to enter menu for search mode



Honeywell BW Icon+

- **Predictive calibration** – Sensors can predict in advance when their accuracy is becoming too poor to give a reliable, accurate reading. The sensor provides an advanced warning of when recalibration is needed.
- **Interchangeable** – Communication protocol for all intelligent digital sensors is identical allowing for quick and easy installation with minimal user configuration.
- **End-of-life indication** – Sensors predict in advance when their sensitivity is falling too low to give a reliable, accurate reading—advanced warning of end of life.
- **Digital interface** – The Smart Device Communication Standard—UART communication between the instrument and sensor.
- **Digital traceability** – Sensors contain serial number, manufacturing date and gas type.
- **Fault indication** – Intelligent sensors can detect several internal faults using on-board diagnostics: open circuit sensing, high impedance electrode, drift/fault in reference electrode, electrolyte concentration out of range and counter electrode fault.

- **Designed to meet global performance standards**
EN 50104:2010; IEC 60079-0:2011 Ed. 6; IEC 60079-11:2011 Ed. 6; EN 60079-0:2012/A11:2013; EN 60079-11:2012

HONEYWELL BW FLEX

The BW Flex features a similar design to the BW Icon and BW Icon+, incorporating an enhanced screen featuring a high-resolution dot matrix display. This shows live gas readings and supports a wide range of languages. It also has the widest range of sensors available on this platform and the sensors can be positioned in any location. The BW Flex is the ideal solution for applications requiring four toxic sensors. While the product has four sensor slots like the BW Icon and BW Icon+, one of the slots can be used for a COSH sensor (CO +H₂S), which allows for detection of a fifth gas—all while remaining one of the smallest five-gas portables available on the market.

80 million

UNPROTECTED
Based on industry data, more than 80 million workers at risk from hazardous gases and pollutants remain unprotected

Up to \$4M

COMPANY FINES
According to industry sources, company fines per fatality can be as much as \$0.5 million to \$4 million



Honeywell BW Flex

	BW ICON	BW ICON+	BW FLEX4	BW FLEX5
Icon (IML)	●	●		
Display			●	●
Gases detected	4	4	4	5
1- series sensors	●	●	●	●
i- series sensors			●	●
Serviceable		●	●	●
Battery runtime	60 days	60 days	Up to 60 days	Up to 60 days
Life time	2 years	5 years +	5 years +	5 years +
Certified temp range	-40°C to +55°C	-40°C to +55°C	-40°C to +55°C	-40°C to +55°C
IP	IP 66/68	IP 66/68	IP 66/68	IP 66/68
ATEX/IECEX/CSA	●	●	●	●
MED/Performance/ Mining ¹			●	●
Size dimension	108.2mm x 61.5mm x 43.2mm (4.29in x 2.44in x 1.7in) with Alligator Clip 108.2mm x 61.5mm x 37.8mm (4.29in x 2.44in x 1.49in) with Klick Fast Stud			
Warranty ²	2 years	3 years	3 years	3 years
User interface language	Universal Interface	Universal Interface	11 languages	11 languages

¹Available soon after launch

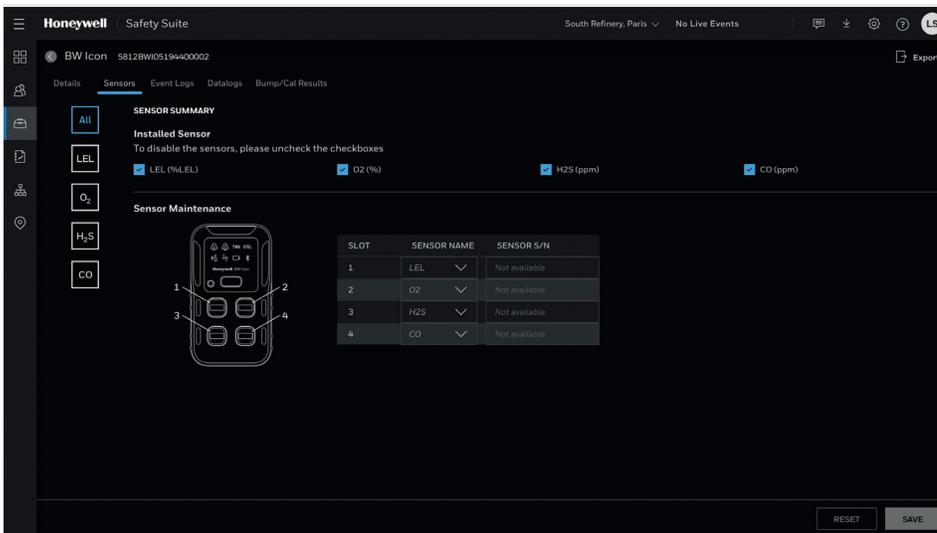
²Warranty may vary for exotic sensors

WHO IS IT FOR?

Honeywell developed the BW Next Generation Multi-Gas Platform to ensure that everyone can be safe no matter what their budget may be. The Honeywell BW Icon is designed for safety managers seeking affordable, reliable options to keep their workers safe, while ensuring compliance regulations are met. It allows them to stay within their budget without compromising quality or safety. If contractors arrive at a work site with just a single-gas detector, safety managers now have a cost-effective way to equip them with a portable multi-gas detector—capable of detecting up to four gases. The BW Icon helps address basic compliance, primarily in the oil and gas industry.

For safety managers focused on long-term cost of ownership and flexible applications for enhanced worker safety, the BW Icon+ and the BW Flex are built to meet their needs. Both the BW Icon+ and the BW Flex provide enhanced safety not only in the oil and gas industry, but also in industries such as agriculture, wastewater treatment, power generation, steel and manufacturing.

For independent contractors, many of whom use the Honeywell BW Clip single gas detector, the BW Icon is the ideal replacement multi-gas detector for those who are looking to upgrade and increase their protection at an affordable cost. The BW Icon makes it easy for independent contractors to reduce risk and feel safer. It allows them to work with greater confidence, knowing they're monitoring gas levels quickly and accurately.



Honeywell Safety Suite software provides intuitive analysis, compliance tracking and device configuration.

While the oil and gas industry may be the most relevant due to the high-risk environments, multi-gas detectors are essential in a variety of industries.

Industries such as agriculture, wastewater management, power generation, steel, utilities, telecoms and manufacturing must also be equipped with the highest-quality safety equipment as they are also making a cultural shift focused on safety in the workplace.

Industries such as steel and water create environments where toxic gases may be found and the BW Next Generation Multi-Gas Platform can be utilized to keep workers safe. The industry-leading technology, flexible applications for enhanced worker safety and price point assist safety managers and independent contractors to increase safety and productivity. The Icon+ and the Flex are especially suited for use in these industries.



CONCLUSION

Honeywell has been a leader in the industry for over 50 years, continuously striving to provide quality and reliability. The BW Next Generation Multi-Gas Platform product line enhances safety, efficiency and productivity. Whether the BW Icon, BW Icon+ or BW Flex is in use, safety managers can be confident their teams are meeting safety and compliance regulations.

Independent contractors can now feel safer using reliable multi-gas detectors. The new detectors are intuitive and easy to use so contractors do not have to worry about whether they are interpreting gas readings correctly. Contractors can now go to work every day with the confidence of knowing they are getting the same level of protection as full-time plant employees, furthering a culture of safety that is accessible to everyone.



For more information:

safety.honeywell.com

Honeywell Gas Analysis and Safety

9680 Old Baires Rd,
Fort Mill, SC 29707
(803) 835-8000

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WHAT
WE
MAKE IT**

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