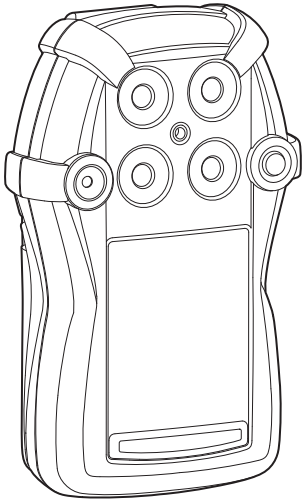
twilight

INSTRUMENTOS DE MEDICIÓN INDUSTRIAL

Quattro BW-QTXWHMRYNA



GasAlert Quattro

1, 2, 3, and 4 Gas Detector

User Manual

BW Technologies by Honeywell

Limited Warranty and Limitation Liability

BW Technologies LP (BW) warrants the product to be free from defects in material and workmanship under normal use and service for a period of two years, beginning on the date of shipment to the buyer. This warranty extends only to the sale of new and unused products to the original buyer. BW's warranty obligation is limited, at BW's option, to refund of the purchase price, repair or replacement of a defective product that is returned to a BW authorized service center within the warranty period. In no event shall BW's liability hereunder exceed the purchase price actually paid by the buyer for the Product.

This warranty does not include:

a) fuses, disposable batteries or the routine replacement of parts due to the normal wear and tear of the product arising from use;
b) any product which in BW's opinion, has been misused, altered, neglected or damaged, by accident or abnormal conditions of operation, handling or use;
c) any damage or defects attributable to repair of the product by any person other than an authorized dealer, or the installation of unapproved parts on the product; or

The obligations set forth in this warranty are conditional on:

a) proper storage, installation, calibration, use, maintenance and compliance with the product manual instructions and any other applicable recommendations of BW;
b) the buyer promptly notifying BW of any defect and, if required, promptly making the product available for correction. No goods shall be returned to BW until receipt by the buyer of shipping instructions from BW; and
c) the right of BW to require that the buyer provide proof of purchase such as the original invoice, bill of sale or packing slip to establish that the product is within the warranty period.

THE BUYER AGREES THAT THIS WARRANTY IS THE BUYER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. BW SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR BASED ON CONTRACT, TORT OR RELIANCE OR ANY OTHER THEORY.

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ISO 9001

Introduction

⚠ Warning

To ensure personal safety, read Safety Information - Read First and ⚠ Cautions before using the detector.

The GasAlertQuattro gas detector (“the detector”) warns of hazardous gas at levels above user-defined alarm setpoints.

The detector is a personal safety device. It is your responsibility to respond properly to the alarm.

Gases Monitored

The following table lists the gases that are monitored by the detector.

Table 1. Gases Monitored

Gas Detected	Unit of Measure
Hydrogen sulfide (H_2S)	parts per million (ppm)
Carbon monoxide (CO)	parts per million (ppm)
Combustible gases (LEL)	a) percent of lower explosive limit (%LEL) b) percent by volume methane 0-5.0% v/v
Oxygen (O_2)	% volume

CAUTION: FOR SAFETY REASONS, THIS EQUIPMENT MUST BE OPERATED AND SERVICED BY QUALIFIED PERSONNEL ONLY. READ AND UNDERSTAND THIS USER MANUAL COMPLETELY BEFORE OPERATING AND SERVICING.

Safety Information - Read First

Use the detector only as specified in this user manual and the quick reference guide, otherwise the protection provided by the detector may be impaired.

International symbols used on the detector and in this user manual are defined in Table 2.

Read the ⚠ **Cautions** on the following pages before using the detector.

Warning

This instrument contains a lithium polymer battery. Dispose of lithium cells immediately. Do not disassemble and do not dispose of in fire. Do not mix with the solid waste stream. Spent batteries must be disposed of by a qualified recycler or hazardous materials handler.

⚠ Cautions

- ***Warning:*** **Substitution of components may impair Intrinsic Safety.**
- **Before using the detector, refer to Sensor Poisons and Contaminants.**
- ***Caution:*** **For safety reasons, this equipment must be operated and serviced by qualified personnel only. Read and understand this user manual completely before operating or servicing.**
- **Do not use the detector if it is damaged. Inspect the detector before using. Look for cracks and/or missing parts.**
- **If the detector is damaged or parts are missing, contact BW Technologies by Honeywell immediately.**
- **Only use sensor(s) that are specifically designed for the GasAlertQuattro. Refer to Replacement Parts and Accessories.**
- **Calibrate the detector before first-time use and then on a regular schedule, depending on use and sensor exposure to poisons and contaminants. BW Technologies by Honeywell recommends that the sensors be calibrated regularly and at least once every 180 days (6 months).**
- **BW recommends to bump test the sensors before each day's use to confirm their ability to respond to gas by exposing the detector to a gas concentration that exceeds the alarm setpoints. Manually verify that the audible and visual alarms activate. Calibrate if the readings are not within the specified limits.**
- **Protect the combustible sensor from exposure to lead compounds, silicones, and chlorinated hydrocarbons. Although certain organic vapors (such as leaded gasoline and halogenated hydrocarbons) may temporarily inhibit sensor performance, in most cases the sensor will recover after calibration.**
- **BW recommends the combustible sensor be checked with a known concentration of calibration gas after any known exposure to catalyst contaminants/poisons (sulfur compounds, silicone vapors, halogenated compounds, etc).**
- **The combustible sensor is factory calibrated to 50% LEL methane. If monitoring a different combustible gas in the % LEL range, calibrate the sensor using the appropriate gas.**
- ***Warning:*** **High off-scale LEL readings may indicate an explosive concentration.**

⚠ Cautions

- **Only the combustible gas detection portion of this instrument has been assessed for performance by CSA International.**
- **For use only in potentially explosive atmospheres where oxygen concentrations do not exceed 20.9% (v/v).**
- **Any rapid upscaling reading followed by a declining or erratic reading may indicate a gas concentration beyond upper scale limit, which may be hazardous.**
- **Calibrate only in a safe area that is free of hazardous gas in an atmosphere of 20.9% oxygen.**
- **Use only BW approved batteries for the GasAlertQuattro detector. Refer to Specifications.**
- **Charge the detector before first-time use. BW recommends the detector be charged after every workday.**
- **Charge the GasAlertQuattro using BW charger adapters designed for the GasAlertQuattro only. Do not use any other charging adapter. Failure to adhere to this caution can lead to fire and/or explosion.**
- **Extended exposure of the GasAlertQuattro to certain concentrations of combustible gases and air may stress a detector element, which can seriously affect its performance. If an alarm occurs due to high concentrations of combustible gases, recalibration should be performed, or if needed, the sensor replaced.**
- **Do not test the combustible sensor's response with a butane cigarette lighter; doing so will damage the sensor.**
- **Do not expose the detector to electrical shock or severe continuous mechanical shock.**
- **Deactivating the detector by removing the battery pack may cause improper operation and harm the detector.**
- **Do not immerse the detector in liquids.**
- **Do not attempt to disassemble, adjust, or service the detector unless instructions for that procedure are provided in this user manual and/or that part is listed as a replacement part. Use only BW Technologies by Honeywell Replacement Parts and Accessories.**

⚠ Cautions

- ***Warning:*** **The lithium battery (QT-BAT-R01) may present a risk of fire or chemical burn hazard if misused. Do not disassemble, heat above 212°F (100°C), or incinerate.**
- ***Warning:*** **Do not use any other lithium batteries with the GasAlertQuattro detector. Use of any other cell can cause fire and/or explosion. To order and replace the QT-BAT-R01 battery, refer to Replacement Parts and Accessories.**
- ***Warning:*** **Lithium polymer cells exposed to heat at 266°F (130°C) for 10 minutes can cause fire and/or explosion.**
- **Dispose of used lithium cells immediately. Do not disassemble and do not dispose of in fire. Do not mix with the solid waste stream. Spent batteries must be disposed of by a qualified recycler or hazardous materials handler.**
- **Keep lithium cells away from children.**
- **Calibration cylinders that are used with a demand flow regulator must meet the following maximum inlet pressure specifications:**
  - **Disposable cylinders 0-1000 psig/70 bar**
  - **Refillable cylinders 0-3000 psig/270 bar**
- **If using the detector near its upper or lower operating temperature, BW recommends zeroing or activating the detector in that environment.**

⚠ Mises en garde

- ***Avertissement :*** **Le remplacement d'un composant de l'appareil peut altérer sa sécurité intrinsèque.**
- **Avant toute utilisation du détecteur, reportez-vous à la section Sensor Poisons and Contaminants.**
- ***Avertissement :*** **Pour des raisons de sécurité, ce matériel doit être utilisé et entretenu exclusivement par du personnel qualifié. Lisez attentivement le présent guide technique avant d'utiliser l'appareil ou d'en assurer l'entretien, et assurez-vous d'en avoir bien compris les instructions.**
- **Ne pas utiliser le détecteur s'il est endommagé. Inspecter le détecteur avant de l'utiliser. Vérifier l'absence de fissures et/ou s'assurer qu'aucune pièce ne manque.**
- **Si le détecteur est endommagée ou si des pièces sont manquantes, prenez contact avec BW Technologies by Honeywell immédiatement.**
- **Utilisez uniquement des capteurs qui sont spécialement conçus pour le détecteur GasAlertQuattro. Reportez-vous à la section Replacement Parts and Accessories.**
- **Étalonnez le détecteur avant sa première utilisation, puis de manière régulière, en fonction de l'utilisation et de l'exposition du capteur aux poisons et autres contaminants. BW Technologies by Honeywell recommande d'étalonner les capteurs régulièrement et au moins une fois tous les 180 jours (6 mois).**
- **Avant chaque utilisation quotidienne, BW recommande d'effectuer un test fonctionnel des capteurs afin de vérifier qu'ils réagissent bien aux gaz présents, en exposant le détecteur à une concentration de gaz supérieure aux seuils d'alarme. Vérifiez manuellement que les alarmes sonore et visuelle sont activées. Étalonnez l'appareil si les mesures sont en dehors des limites spécifiées.**
- **Protégez le capteur de gaz combustibles contre toute exposition aux composés de plomb, aux silicones et aux hydrocarbures chlorés. Bien que certaines vapeurs organiques (telles que l'essence au plomb ou les hydrocarbures halogénés) puissent neutraliser provisoirement les performances du capteur, dans la plupart des cas, le capteur retrouvera son fonctionnement normal après étalonnage.**
- **BW recommande de contrôler le capteur de gaz combustibles à l'aide d'une concentration de gaz d'étalonnage connue après toute exposition à des poisons/contaminants catalytiques (composés de soufre, vapeurs de silicium, produits halogénés, etc.).**
- **Le capteur de gaz combustibles est étalonné en usine au méthane, à une concentration de 50 % de la LIE. Si la surveillance porte sur un autre gaz combustible dans la plage % LIE, étalonnez le capteur en utilisant le gaz approprié.**

- ***Avertissement :*** **Des valeurs LIE hors échelle élevées peuvent indiquer la présence d'une concentration explosive.**
- **Seul l'élément de détection de gaz combustibles de cet appareil a fait l'objet d'une évaluation des performances homologuée par CSA International.**
- **À utiliser exclusivement dans des atmosphères potentiellement explosives dans lesquelles la concentration d'oxygène ne dépasse pas 20,9 % (v/v).**
- **Une lecture qui augmente rapidement, puis qui baisse, ou une lecture fantaisiste peuvent être représentatives d'une concentration de gaz excédant la limite d'échelle supérieure et risquant donc d'être dangereuse.**
- **Veillez à effectuer l'étalonnage en zone sûre, exempte de gaz dangereux, dans une atmosphère contenant 20,9 % d'oxygène.**
- **Utilisez uniquement des batteries approuvées par BW pour le détecteur GasAlertQuattro. Reportez-vous à la section Specifications.**
- **Chargez le détecteur avant sa première utilisation. BW recommande de recharger le détecteur après chaque journée d'utilisation.**
- **Chargez le détecteur GasAlertQuattro à l'aide d'adaptateurs pour chargeur de BW conçus uniquement pour le détecteur GasAlertQuattro. N'utilisez aucun autre adaptateur de charge. Le non-respect de cette consigne peut provoquer un incendie et/ou une explosion.**
- **L'exposition prolongée du détecteur GasAlertQuattro à certaines concentrations de gaz combustibles et d'air peut fortement solliciter un élément du détecteur et nuire gravement à ses performances. En cas d'apparition d'une alarme suite à de fortes concentrations de gaz combustibles, il faut effectuer un réétalonnage ou au besoin remplacer le capteur.**
- **Ne testez pas la réactivité du capteur de gaz combustibles avec un briquet au butane ; vous endommageriez le capteur.**

- **N'exposez pas le détecteur à des chocs électriques ou à de forts chocs mécaniques répétés.**
- **Toute désactivation du détecteur par le retrait de la batterie risque de l'endommager et de provoquer un fonctionnement inapproprié.**
- **N'immergez pas le détecteur dans des liquides.**
- **N'essayez pas de démonter, d'ajuster ou de réparer le détecteur, sauf si des instructions pour cette procédure sont fournies dans le présent guide technique de référence et/ou si la pièce concernée est répertoriée comme pièce de rechange. Utilisez uniquement ce que BW Technologies by Honeywell fournit en tant que Replacement Parts and Accessories**
- ***Avertissement :* La batterie au lithium (QT-BAT-R01) peut présenter un risque d'incendie ou de brûlure chimique en cas d'utilisation inappropriée. Veillez à ne jamais l'incinérer, la démonter ou l'exposer à une température supérieure à 100 °C.**
- ***Avertissement :* Veillez à ne jamais utiliser d'autres batteries au lithium avec le détecteur GasAlertQuattro. Toute autre batterie pourrait provoquer un incendie et/ou une explosion. Pour commander et réinstaller la batterie QT-BAT-R01, reportez-vous à la section Replacement Parts and Accessories.**
- ***Avertissement :* Les piles au lithium polymère exposées à une température supérieure à 130 °C (266 °F) pendant plus de 10 minutes peuvent provoquer un incendie et/ou une explosion.**
- **Mettez immédiatement au rebut les piles au lithium usagées. Veillez à ne jamais les démonter ou les jeter au feu. Ne les mélangez pas avec d'autres déchets solides. Les batteries usagées doivent être éliminées par un centre de recyclage agréé ou un centre de traitement des matières dangereuses.**
- **Gardez les piles au lithium hors de portée des enfants.**
- **Toutes les bouteilles d'étalonnage utilisées avec des régulateurs de débit à la demande doivent répondre aux spécifications de pression d'entrée maximale suivantes :**
  - **Bouteilles jetables de 0 à 1 000 psig/70 bars**
  - **Bouteilles rechargeables de 0 à 3 000 psig/270 bars**
- **Si vous utilisez le détecteur près de sa température de fonctionnement supérieure ou inférieure, BW recommande de mettre le détecteur à zéro ou de l'activer dans cet environnement.**

Table 2. International Symbols

Symbol	Meaning	Symbol	Meaning
	Approved to both U.S. and Canadian Standards by CSA International	**IECEx**	International Electrotechnical Commission Scheme for Certification to Standards for Electrical Equipment for Explosive Atmospheres
	European Explosives Protection		Natural Institute of Metrology, Quality, and Technology. Conforms to Brazilian INMETRO Certification.
CE	Conforms to European Union Directives	**ATEX**	Conforms to European ATEX Directives
	Korean Testing Laboratory	**EAC EX**	Customs Union Russian Certification
	Australian Regulatory Compliance Mark		

Sensor Poisons and Contaminants

Several cleaners, solvents, and lubricants can contaminate and cause permanent damage to sensors. Before using cleaners, solvents, and lubricants in close proximity to the detector sensors, read the following caution and refer to Table 3.

⚠ Caution

Use only the following BW Technologies by Honeywell recommended products and procedures:

- **Use water-based cleaners.**
- **Use non-alcohol based cleaners.**
- **Clean the exterior of the detector with a soft, damp cloth.**
- **Do not use soaps, polishes, or solvents.**

The following table lists common products to avoid using around sensors.

Table 3. Sensor Poisons and Contaminants

Cleaners and Lubricants	Silicones	Aerosols
Brake cleaners	Silicone cleaners and protectants	Bug repellents and sprays
Lubricants	Silicone based adhesives, sealants, and gels	Lubricants
Rust inhibitors	Hand/body and medicinal creams that contain silicone	Rust inhibitors
Window and glass cleaners	Tissues containing silicone	Window and glass cleaners
Dishsoaps	Mold releasing agents	
Citrus based cleaners	Polishes	
Alcohol based cleaners		
Hand sanitizers		
Anionic detergents		
Methanol (fuels and antifreezes)		

Getting Started

The list below provides the standard items included with the detector. If the detector is damaged or parts are missing, contact the place of purchase immediately.

- Sensors: H_2S, CO, O_2, and combustible LEL (depending upon sensors ordered with detector)

Note

Detectors that are configured for 1, 2, or 3 gases may contain a dummy sensor in one of the four sensor locations.

- Calibration cap
- Calibration hose (3 ft./1 m) w/ quick connect
- Charging adapter or 3 alkaline batteries (dependent on type of battery pack)
- Screwdriver
- Quick Reference Guide
- Supplementary booklet including a quick reference card
- Technical reference guide on CD-ROM

For a list of GasAlertQuattro accessories, refer to Replacement Parts and Accessories.

Fleet Manager II Options

Fleet Manager II software can be downloaded without cost from BW Technologies by Honeywell's website www.gasmonitors.com.

Fleet Manager II CD-ROM is shipped with the MicroDock II base station.

The detector is shipped with the sensors and a rechargeable or alkaline battery pack. To replace sensors and maintain the battery pack, refer to the following:

- Replacing the Sensors
- Charging the Rechargeable Battery
- Replacing the Battery Pack
- Replacing the Alkaline Batteries

To order parts, refer to Replacement Parts and Accessories.

To become oriented with the features and functions of the detector, refer to the following figures and tables:

- Figure 1. and Table 4. describes the detector's components.
- Screen Elements describes the LCD icons and screen elements.
- Table 5. describes the detector's pushbutton.

Parts of the GasAlertQuattro

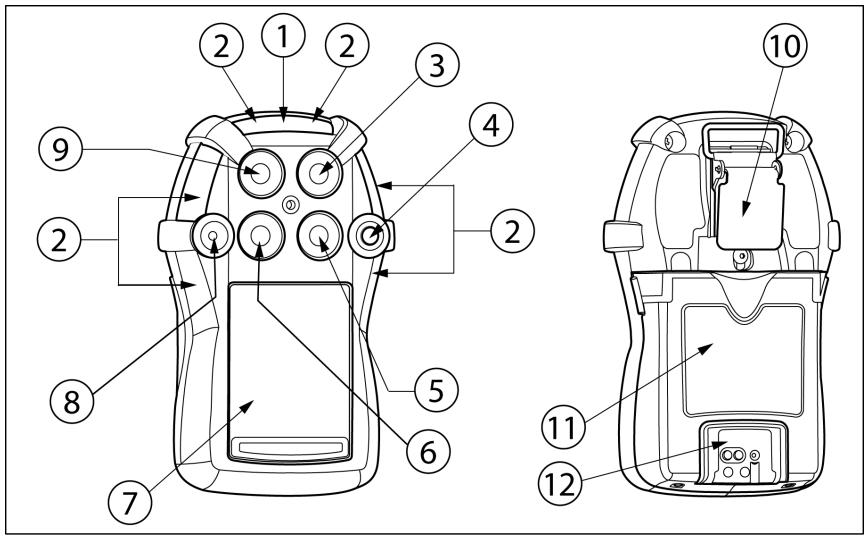


Figure 1. Parts of the GasAlertQuattro

Table 4. Parts of the GasAlertQuattro

Item	Description	Item	Description	Item	Description	Item	Description
1	IntelliFlash (green LED)	4	Button	7	Liquid crystal display (LCD)	10	Alligator clip
2	Visual alarm indicator (red LED)	5	Combustible (LEL) sensor	8	Audio alarm	11	Battery pack
3	Hydrogen sulfide (H_2S) sensor	6	Carbon monoxide (CO) sensor	9	Oxygen (O_2)	12	Charging connector and IR interface

Screen Elements

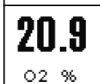
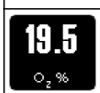
 Calibration gas cylinder	 Display during startup to indicate audio and visual alarm pass or fail during a MicroDock II bump test	 Displays if calibration is initiated and the Cal IR Lock option is enabled
 Bump test gas cylinder	 Displays when the Stealth option is enabled	 Displays during calibration and when startup is complete
 Indicates pass for startup, sensors, calibrations, and bump tests	 Displays when the detector is in alarm (not applicable to TWA and STEL)	 Battery — full charge
 Indicates fail for startup, sensors, calibrations, and bump tests	 Displays when there is a warning, failure, error, or low battery	 Battery — half charge
 Pushbutton displays when screen provides an option to end or skip	 Heartbeat pulses continually during normal operation to verify the detector is operating correctly	 Low battery warning
 Reading displays with white background during normal operation	 Displays for STEL alarms and setpoints	 Displays when the detector is connected to an IR Link
 Reading displays with alternating black background when the sensor is in alarm	 Displays for TWA alarms and setpoints	 Displays when the detector is communicating with Fleet Manager II
 Grey check box displays during bump tests or calibration when a gas is not due	 Displays during peak gas exposure information screens	 Displays when the detector's firmware is being updated
 Displays when the most recent calibration or bump test failed but a previous calibration or bump test is still valid within the due date. Also displays during auto-zero.	 Displays during an operation such as auto-zeroing	 Displays when gas should no longer be applied after a bump test or calibration

Table 5. Button

Button	Description
◯	• To activate the detector, press and hold ◯ in a safe area that is free of hazardous gas and in an atmosphere of 20.9% oxygen. • To deactivate the detector, press and hold ◯ during the powering off countdown. Release ◯ when **OFF** displays. • To view the date/time, current battery power, calibration due date, bump test due date, TWA, STEL, and peak readings, press ◯ twice rapidly. To clear the TWA, STEL, and peak readings, press and hold ◯ when the LCD displays **Hold ◯ to reset peaks, TWA, STEL**. • To initiate calibration, press and hold ◯ while the detector performs the **OFF** countdown. Continue holding ◯ while the LCD briefly deactivates and then reactivates to begin the calibration countdown. Release ◯ when **Calibration started** displays. • To activate the backlight, press ◯ and release. • To acknowledge latching alarms, press ◯. • To acknowledge a low alarm and temporarily disable the audible alarm, press ◯. The **Low Alarm Acknowledge** option must be enabled in Fleet Manager II. • To acknowledge any of the “due today” messages (calibration and bump test), press ◯. If the force calibration option is enabled, a calibration cannot be bypassed. If the force bump option is enabled, a bump test cannot be enabled.

Activating/Deactivating the Detector

⚠ Caution

Only activate the detector in a safe area that is free of hazardous gas in an atmosphere of 20.9% oxygen.

Activate: Press and hold ◯.

Deactivate: Press and hold ◯ during the powering off countdown. Release ◯ when **OFF** displays.

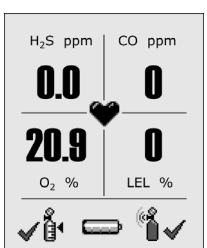
Startup Sequence

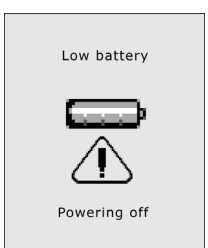
If an error screen displays during the startup sequence, refer to Startup Troubleshooting.

When the detector is activated, it performs several tests during the startup sequence. Confirm the following tests occur.

Battery Test

If battery power is critically low upon startup, the detector displays the following screens and then deactivates.





Recharge the battery for 6 hours. Refer to Charging the Rechargeable Battery.

Segment Test

1. The segment test verifies that the visual, audio, and vibrate functions are operating correctly. The detector alarms, vibrates, and displays the following screen.

Product Identification and Firmware Revision

2. The following two screens display showing the BW and product identification, and the firmware revision.

Startup Message

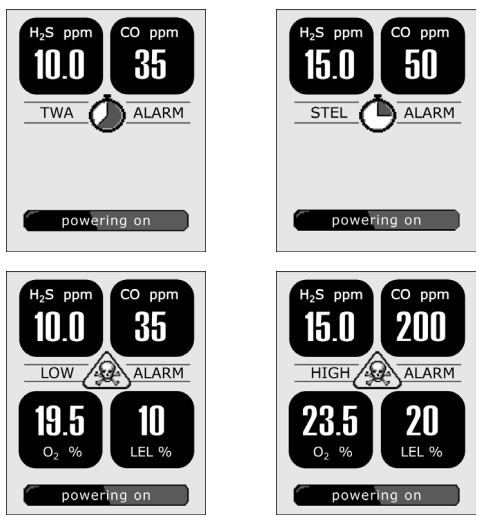
3. If data is entered in the Startup Message field in Fleet Manager II, a startup message (50 characters maximum) displays on the LCD. If a startup message has not been entered, it is bypassed during the startup sequence. Refer to Startup Message in User Options.

Note

To make a line break to force text to the next line, as in the example above, press the | (pipe or vertical bar) key.

Alarm Setpoints

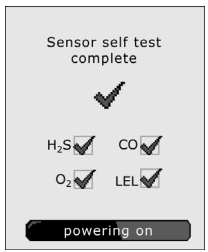
4. The alarm setpoints defined in Fleet Manager II display on the detector in the following order:
   - TWA (time-weighted average) CO and H_2S only
   - STEL (short-term exposure limit) CO and H_2S only
   - Low
   - High



Note: Alarm setpoints may vary by region. Refer to Sample Gas Alarm Setpoints.

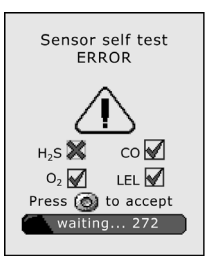
Sensor Self Test

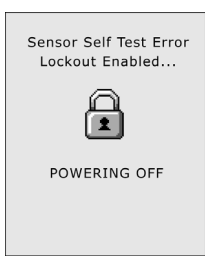
The detector tests the sensors during startup. If all sensors pass, the following screen displays.



Lockout Enabled

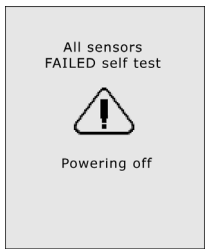
If **Lockout on Self-test Error** is enabled and a sensor fails the startup sensor self-test, the following screens display.

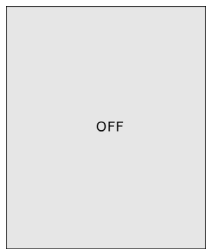




OFF then displays and the detector deactivates. For all sensor and self-test error screens, refer to Startup Troubleshooting.

If all sensors fail the startup sensor self-test, the following screens display.



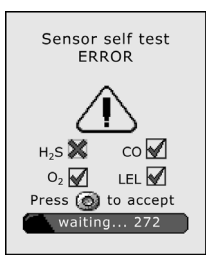


The detector then automatically deactivates.

For all sensor and self-test error screens, refer to Startup Troubleshooting.

Lockout Disabled

If **Lockout on Self Test Error** is disabled and a sensor fails the self-test, the following screens display.

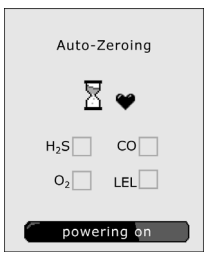


BW Technologies by Honeywell recommends that the sensor be replaced immediately. Refer to Replacing the Sensors.

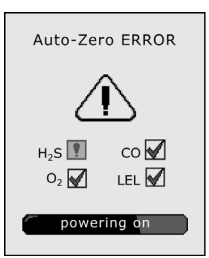
Auto Zero Sensors

5. The detector zeros the sensors.

   When auto-zeroing is complete, ⌛ changes to ✔.



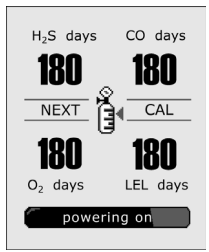
If a sensor fails the auto-zero test, the Auto-zero error screen displays. ❗ indicates which sensor failed and that a previous auto-zero result for that sensor will be used to zero the sensor.



For sensor error causes, refer to Startup Troubleshooting.

Next Calibration Due

6. The next calibration due date for each sensor displays.



Note

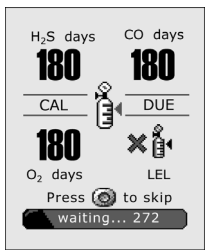
N/A displays when the calibration interval has been defined as 0 days. Refer to Calibration Interval.

⚠ Warning

BW Technologies by Honeywell recommends that the sensors be calibrated regularly and at least once every 180 days (6 months).

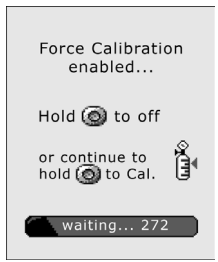
Sensors Due for Calibration

If calibration is due, the following screen displays. ✖ flashes for each sensor that is due for calibration.



Press ◯ to acknowledge that calibration is due. If **Force Calibration** is disabled, the detector enters normal operation.

If the **Force Calibration** option is enabled, the following screen displays.



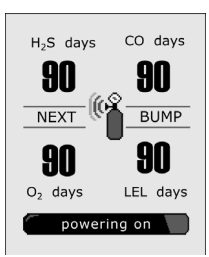
The sensor(s) must be calibrated to enter normal operation. Press and hold ◯ to enter calibration and refer to Calibration Procedures, or press ◯ and release to deactivate the detector.

Note

BW Technologies by Honeywell recommends that the sensors be calibrated at least once every 180 days (6 months).

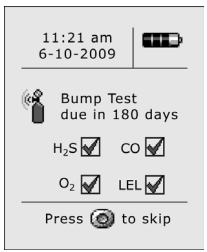
Bump Test Due

7. The next bump test due date for each sensor displays.



Sensors Due for Bump Test

If a bump test is due, the following screen displays. ✖ flashes for each sensor that is due for a bump test.



Note

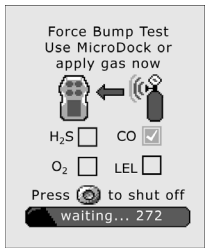
N/A displays when the bump test interval has been defined as 0 days. Refer to Bump Interval.

⚠ Caution

BW recommends to bump test the sensors before each day's use to confirm their ability to respond to gas by exposing the sensors to a gas concentration that exceeds the alarm setpoints.

Press ◯ to acknowledge that a bump test is due. If **Force Bump** is disabled, the detector enters normal operation.

Force Bump Test Enabled: If the **Force Bump** option is enabled, the following screen displays.



The sensor(s) must pass the bump test to enter normal operation.

Apply gas manually or via the MicroDock II station, or press ◯ to exit and deactivate the detector. Refer to Bump Test.

Note

BW Technologies by Honeywell recommends to bump test the sensors before each day's use to confirm their ability to respond to gas by exposing the sensors to a gas concentration that exceeds the alarm setpoints. Manually verify that the audible and visual alarms activate. Calibrate if the readings are not within the specified limits.

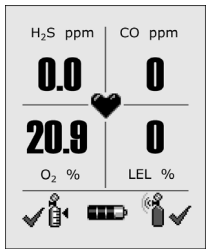
If error screens display, refer to Bump Test Troubleshooting.

Startup Self-test Summary

8. The detector performs several diagnostic tests during startup to ensure it is operating correctly. A checkmark displays for each test that has passed successfully.

If ✖ displays for Hardware, Battery, Sensors, Clock, or Memory contact BW Technologies by Honeywell. If an ✖ displays Auto-Zero, the detector uses the pervious zero readings. The detector can be zeroed in a safe area free of hazardous gas. Refer to steps #1-9 in Quad Gas Calibration.

The detector enters normal operation.



The detector automatically begins

- recording the peak gas exposure,
- calculating the short-term exposure level (STEL), and
- calculating the time-weighted average (TWA) exposures.

Installing Fleet Manager II

Fleet Manager II is required to configure the detector. To install Fleet Manager II, refer to the Fleet Manager II CD-ROM that includes the

- installation wizard, and
- *Fleet Manager II Quick Reference Guide* (located under **Help**).

In Fleet Manager II there are two sections to add data, enable/disable features, and to define settings for the sensors and the detector:

- Device Configuration
- Sensor Configuration

Using Fleet Manager II to Configure the Detector

When Fleet Manager II is installed, refer to Table 6., Figure 2., and the following procedures:

Table 6. Connecting the IR Link

Item	Description
1	Detector
2	IR and charger interface
3	IR Link
4	USB cable

Note

The detector can also be configured with the MicroDock II. Refer to the Fleet Manager II Quick Reference Guide.

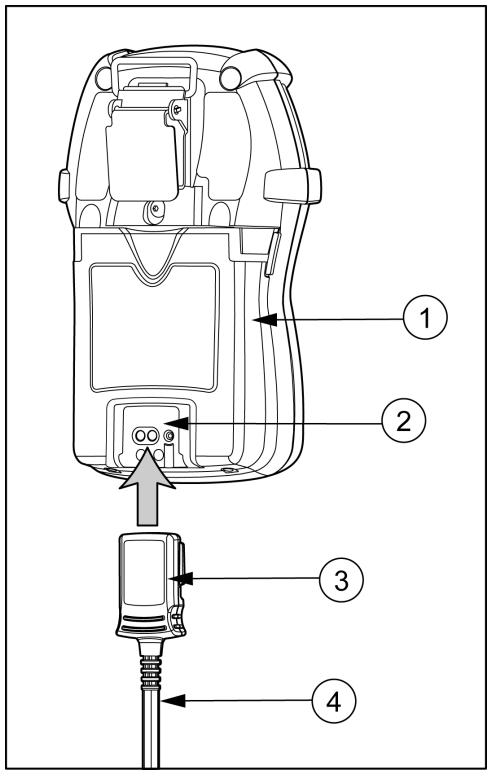


Figure 2. Connecting the IR Link

1. Activate the detector and wait for the startup sequence to complete.
2. Connect the USB cable to the USB port on the computer.

Note

Plug the USB into the same USB port where the USB drivers were installed.

3. Connect the USB cable to the IR Link.
4. Insert the IR Link into the IR interface on the back of the detector.
5. From the PC, open Fleet Manager II.
6. Click **Administration**.
7. From the **Administration** toolbar, click **Login / Logout** to access the **Enter Password** dialog box. Enter **Admin** and click **OK** (password is case sensitive).
8. From the **Devices** toolbar, click **Configure Device via IR Link**.
9. The **Device Selection** popup displays. Select **GasAlertQuattro** and click **OK**.
10. From the configuration window, click **Retrieve from Device** at the bottom of the window. The fields automatically populate with the detector's current configuration settings.
11. Refer to the following sections in this manual for descriptions about how to enter data, enable/disable, and define settings.
12. When all settings are defined, click **Save to Device** at the bottom of the window. The detector is now updated with the new settings.

Device Configuration

The **Device Configuration** section displays data about the detector, allows for a startup message to be entered, and defines and enables/disables settings for the detector.

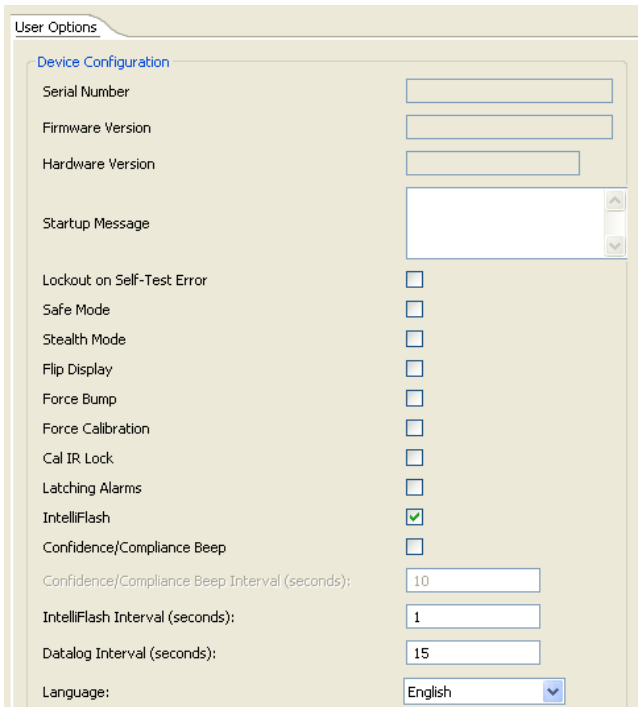


Figure 3. Device Configuration via IR Link

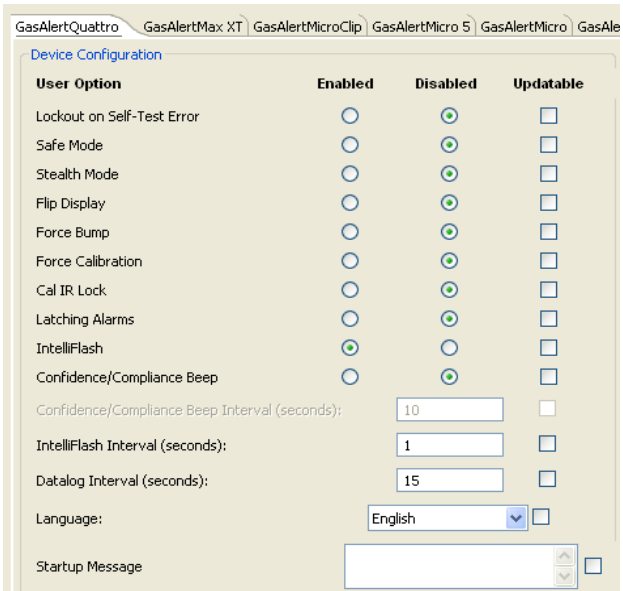


Figure 4. Device Configuration via MicroDock II

Refer to the following options to define settings for the detector.

Note

When options are enabled/disabled, the checkbox displays with a red frame until the new settings are saved to the detector. Click **Save to Device** *and then click* **Retrieve from Device** *to remove the red frames.*

Serial Number Field

This field displays the serial number (e.g. **QA109-001000**) of the detector.

Note

The **Serial Number**, **Firmware Version**, *and* **Hardware Version** *fields are read-only fields. Settings for these fields are factory defined.*

Firmware Version

This field displays the current firmware version that displays on the detector LCD during the startup sequence. If new firmware is uploaded to
the detector, the **Firmware Version** field automatically updates.

Hardware Version

This field displays the current hardware version of the detector.

Startup Message

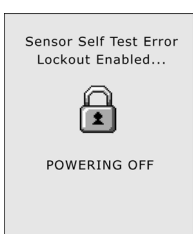
Enter text to display on the detector LCD during startup (50 characters maximum). Enter information such as employee name, plant, area, emergency number(s), etc.

Note

To make a line break to force text to the next line, as in the example above, press the | (pipe or vertical bar) key.

Lockout on Self-Test Error

If **Lockout on Self-Test Error** is enabled and a failure occurs during the self-test, the following screen displays and the detector deactivates.



To enter normal operation, the sensor must be operating correctly. Refer to Troubleshooting and Replacing the Sensors.

The detector is shipped with **Lockout on Self-Test Error** disabled.

Safe Mode

If enabled, **SAFE** displays continuously on the LCD unless an alarm condition occurs.

If an alarm occurs, the LCD displays the alarm condition and the real-time readings for each sensor.

Confidence/Compliance Beep

If enabled, the Confidence/Compliance Beep provides continuous audible confirmation that the detector is operating correctly. Frequency of the beep is defined with the Confidence/Compliance Beep Interval option (every **1**-**120** seconds).

Note

Confidence/Compliance Beep automatically disables during a low battery alarm, self-test fail, calibration fail, bump test fail, and when an alarm event occurs.

The detector is shipped with the **Confidence/Compliance** Beep option disabled.

Latching Alarms

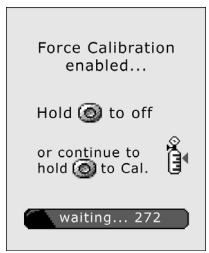
If enabled, during an alarm condition the **Latching Alarms** option causes the low and high gas alarms (audible, visual, and vibrator) to persist until the alarm is acknowledged and the gas concentration is below the low alarm setpoint. The LCD displays the peak concentration until the alarm no longer exists. Local regulations in your region may require the **Latching Alarms** option be enabled.

The detector is shipped with the **Latching Alarms** option disabled.

Force Calibration

Calibration is performed to adjust the sensitivity levels of the sensors to ensure accurate responses to gas.

If enabled and a sensor(s) is past due for calibration, the following screen displays during the startup self-tests.



The sensor(s) must be calibrated to continue and enter normal operation. Press and hold ◯, and refer to Calibration Procedures.

Or

Press and release ◯ to deactivate the detector.

A value must be entered in the **Cal Interval (days)** field in the Sensor Configuration section before enabling **Force Calibration**.

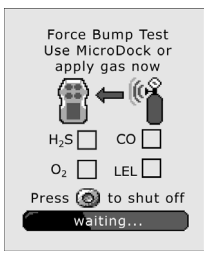
⚠ Caution

If 0 (zero) is entered in the Cal Interval (days) field, the Force Calibration option is automatically disabled.

The detector is shipped with the **Force Calibration** option disabled.

Force Bump

A bump test should be performed regularly to ensure the sensor(s) are responding correctly to gas. If enabled **Force Bump** and the sensor(s) is past due, a bump test should be performed and the overdue sensor(s) must enter into alarm. If the **Force Bump** option is enabled, the following screen displays during the startup sequence.



If enabled, the detector continues to prompt until a bump test is performed and the sensor passes. Apply gas to initiate a bump test.

Or

Press and hold ◯ to deactivate the detector.

A value must be entered in the **Bump Interval (days)** filed in the Sensor Configuration section before enabling **Force Bump**.

⚠ Caution

If 0 is entered in the Bump Interval (days) field, the Force Bump option is automatically disabled.

Note

BW recommends to bump test the sensors before each day's use to confirm their ability to respond to gas by exposing the detector to a gas concentration that exceeds the alarm setpoints. Verify that the audible and visual alarms activate. Calibrate if the readings are not within the specified limits.

For complete instructions to perform a bump test, refer to Bump Test.

The detector is shipped with the **Force Bump** option disabled.

Cal IR Lock

If enabled, the sensor(s) can only be calibrated using an IR device (IR Link or the MicroDock II station).

If the **Cal IR Lock** option is enabled and calibration is due, the following screen displays.

Note

If the **Cal IR Lock** *option is enabled and a manual calibration is attempted, the sensor(s) will auto zero but they will not be calibrated.*

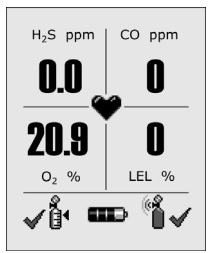
Depending upon the IR device used to calibrate, refer to one of the following:

- Calibrating Using an IR Device, or
- *MicroDock II Base Station User Manual*

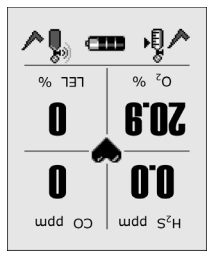
The detector is shipped with the **Cal IR Lock** option disabled.

Flip Display

The detector can display screens at 0° (upright) or 180° (upside down), depending upon how the detector is worn by the worker. If the **Flip Display** option is enabled, the LCD is viewed at 180° (upside down).



Disabled (0°)



Enabled (180°)

The detector is shipped with the **Flip Display** option disabled (upright).

twilight

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