

USER MANUAL



Honeywell BW™ Flex Series

Portable Multiple Gas Detector

Honeywell

M05-4002-003 EN-Rev. A

TOC

Safety	4
Introduction	5
Product Description	5
Standards and Certifications	5
What's in the Box	7
Overview	7
Operations	9
Out of the Box First Run	9
Set Language, Time, and Date	9
Activate the Detector	10
Self Test	11
Deactivate the Detector	11
Common Button Operations	11
Bluetooth Pairing	11
Calibration	13
Bump Test	22
Force Calibration and Bump	27
Zero Calibration	28
Capture Real Time Reading	28
Set the Detector via Device Configurator	28
Maintenance	29
Charge the Battery	29
Update Firmware via DC	32
Additional Information	33
Sensor Poisons and Contaminants	33
Sensor Specifications	34
General Specifications	35
Time Out Events	36
Troubleshooting	37

DataLogs and Event Logs	39
Alarms	40
Replacement Parts	41
Security Information	44
Contact Us	46

Safety



CAUTION

- The detector is a personal safety Device. It is your responsibility to respond properly to the alarm.
- For safety reasons, this equipment must be operated and serviced by qualified personnel only.
- The Li-ion battery in this product presents a risk of fire, explosion, and chemical burn if misused. Do not disassemble, incinerate, or heat above 212°F (100°C). Batteries exposed to heat at 266°F (130°C) for 10 minutes can cause fire and explosion. Batteries must only be charged in a safe area free of hazardous gas.
- Deactivating the detector by removing the battery pack may cause improper operation and harm the detector.
- Use only Honeywell approved battery chargers such as the vehicle Charger.
- Do not use the Detector if it is damaged. Inspect the Detector before use. Look for cracks and missing parts.

1 Introduction

Learn what you need to know about the Honeywell BW™ Flex Series Gas Detector before operating.

Product Description

The Honeywell BW™ Flex Series gas detector warns of hazardous gas at levels above user-defined alarm setpoints. The detector can monitor up to five gases at a time.

Standards and Certifications

IECEX: IECEX SIR 20.0020X

With IR sensor installed: Ex ia op is I Ma, Ex ia op is IIC T4 Ga, $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$

With LEL sensor installed: Ex da ia I Ma, Ex da ia IIC T4 Ga, $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$

With IR and LEL sensor installed: Ex da ia op is I Ma, Ex da ia op is IIC T4 Ga, $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$

Without IR and LEL sensor installed: Ex ia I Ma, Ex ia IIC T4 Ga, $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$

ATEX: Sira 20ATEX2012X

With IR sensor installed:



I M1 Ex ia op is I Ma, $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$



II 1G Ex ia op is IIC T4 Ga, $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$

With LEL sensor installed:



I M1 Ex da ia I Ma, $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$




II 1G Ex da ia IIC T4 Ga, $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$


With IR and LEL sensor installed:

 I M1 Ex da ia op is I Ma, $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$

 II 1G Ex da ia op is IIC T4 Ga, $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$

Without IR and LEL sensor installed:

 I M1 Ex ia I Ma, $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$

 II 1G Ex ia IIC T4 Ga, $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$

Contains FCC ID: SU3RMBLED

Contains IC: 20969-RMBLED

CAN ICES-3(A)/NMB-3(A)

FCC Compliance statement

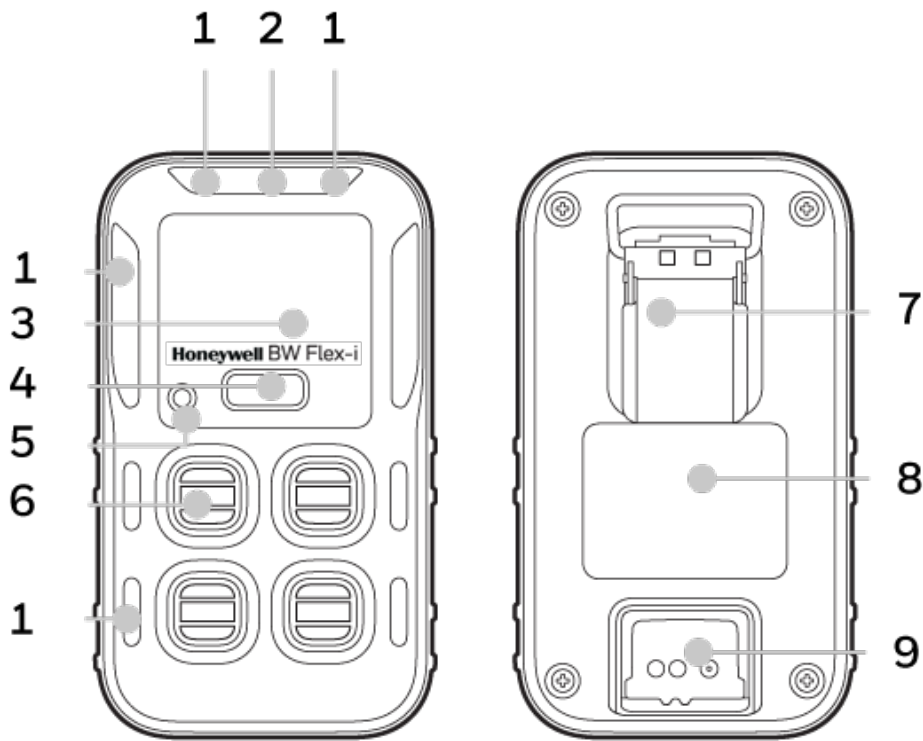
This Detector complies with part 15 of the FCC Rules. operation is subject to the following two conditions: (1) This Detector may not cause harmful interference, and (2) this Detector must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital Detector, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.






What's in the Box

1	Honeywell BW™ Flex Series gas detector
1	Battery (factory-installed)
1	USB charger
1	Calibration cap
1	Klick Fast stud
1	Quick Reference Guide
1	Tubing

Overview



1	Alarm LED	6	Sensor
2	IntelliFlash	7	Clip
3	Display	8	Battery
4	Button	9	Charging Port
5	Beeper		

User Interface	
INFO 	INFO – Shows Date, Time, Peak Reading, STEL & TWA Reading, Alarm Setpoint, Calibration, Bump, Detector, Sensor Faults and LEL information.
BUMP 	BUMP – Carry out a Bump Test.
ZERO CAL 	ZERO CAL – Zero the sensors.
CALIBRATION 	CALIBRATION – Carry out Calibration.
EXIT 	EXIT – Return to the landing screen.

2 Operations

Learn what you can do with your Honeywell BW™ Flex Series Detector, from commissioning to Calibration.

Out of the Box First Run

This operation is only executed the first time the detector is turned on.

1. Turn on the Detector. LEDs flash red, Sensors warm up, and the Detector performs the following Self-Tests: Battery, Firmware, BLE, Sensors, and Bump and Calibration due date.
2. After completing the Self-Test, the detector asks to set the detector up via four different ways: Manually, BLE, IR Link, and IntelliDoX.
3. Single-press the button to select a setup method.
4. Press and hold the button to initiate the selected method. For a detailed description of each method, go to See "Set Language, Time, and Date" below for more information.
5. After the initial setup is complete, the IntelliFlash flashes green every fifteen seconds, and the detector goes to the Regular mode. You are now ready to select any operation from the main menu.

Set Language, Time, and Date

Configure the Language, time, and Date in a new instrument on the first run setup.

There are four ways to set the Time Zone and Language in a new instrument:

- Manual configuration via onscreen instructions.
- Safety Suite Device Configurator (SSDC) via IR-Link or BLE.
- Device Configurator (DC) via BLE.
- Synchronize configuration from IntelliDoX Docking Module.

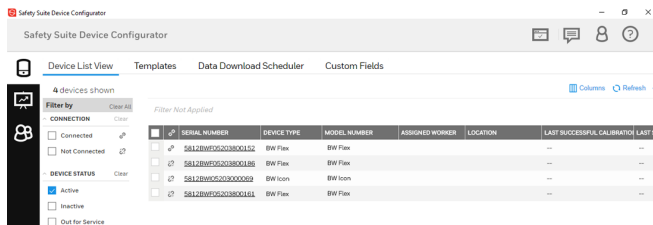
Procedure to configure the detector using DC via BLE on a Mobile Device

1. Turn on the detector and the mobile device.
2. Pair your detector with the mobile device. For a detail pairing process, go to See "Bluetooth Pairing" on page 11 for more information..
3. After pairing, the Quick Setup window requests to Continue or Cancel. Tap **OK** to continue.
4. Choose **Language and Time Zone**, and then tap **Save** to complete the setup.

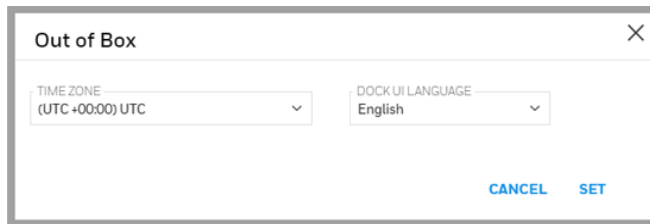
Procedure to configure the detector via SSDC

Configure the detector via the Safety Suite Device Configurator (SSDC) software. You can download SSDC from: https://explore.honeywell.com/safety_suite_device_configurator.html

1. Connect the detector to a computer via IR Link.
2. Open the SSDC software.
3. Click on the Device List View tab.
4. Click Refresh to scan for devices.



5. Select the detector's serial number. The Out of Box popup window is displayed.
6. Choose language and time zone, then click **SET** to complete the process.



Procedure to Configure the Detector Manually

1. Turn on the Detector and wait until you see the "Setup Manually" screen.
2. On the "Setup Manually" screen, press and hold the button. The Language selection menu is displayed.

You can select from the following languages:

English, Deutsch, Español, French, Italian, Portuguese, Russian, Nederlands, Simplified Chinese, Traditional Chinese, and Korean.

3. Single press to switch **Languages**, and Press and hold to select it. After you select the language, the Time setup is displayed.
4. Single press to switch **Hours, Minutes, and Seconds**; press and hold to select. After you set the time, the Date menu is displayed.
5. Single press to switch **Month, Day, and Year**.
6. Press, and Hold to save data. The detector goes to the Regular mode.

Activate the Detector

To turn the detector on, press, and hold the button for four seconds. LEDs light and the instrument vibrates and beeps.

The detector performs a Self Test, the IntelliFlash flashes amber, and Sensors warm-up.

During the Sensor warm-up, the sensors LEDs flash clockwise.

In the regular mode, the IntelliFlash flashes green every fifteen seconds.

Self Test

When the detector is activated, it performs several start-up tests.

- Battery
- Firmware
- BLE
- Sensors
- Bump and Calibration due date

When the detector has passed all the start-up self-tests, it enters the regular operation mode.

Deactivate the Detector

To deactivate your Honeywell BW™ Flex Series detector, press the button, and hold for four seconds.

The detector beeps and vibrates, and the alarm LEDs light red.

Common Button Operations

Feature	Operation
Power On	4-second hold
Power Off	4-second hold
Enter the menu	Double-Press
Exit the menu (on Exit screen)	Press and hold
Switch Menu options	Single-Press
Initiate selected	3-second hold
Acknowledge latched alarm	1-second hold

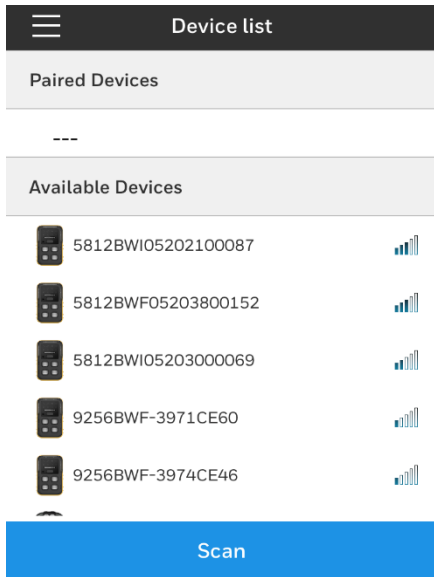
Bluetooth Pairing

You can pair the Honeywell BW™ Flex Series detector to a mobile device via built-in Bluetooth Low Energy (BLE) and The Honeywell Device Configurator app. If you do not have the app installed on your mobile device, you can download it from your Play Store or App Store.

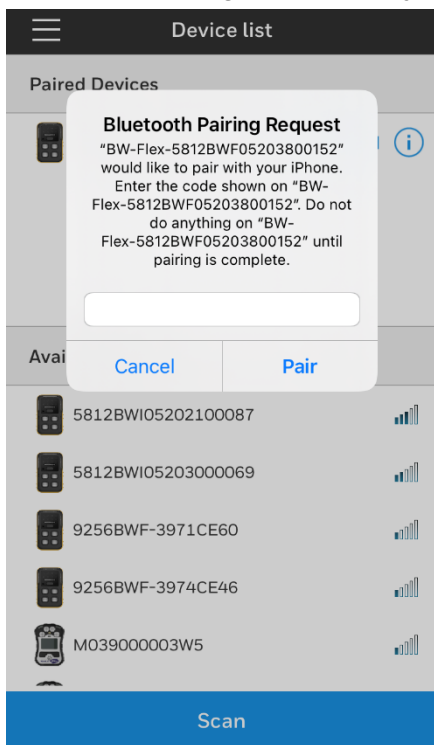
The Honeywell Device Configurator app can show gas readings and alarms from the BW Flex Series unit that is connected, and then, send this data to the Honeywell remote monitoring software.

On the Honeywell BW™ Flex Series, the Bluetooth connection is on by default.

1. Turn On the BW Flex Series detector and your mobile device.
2. In your mobile device, activate the Bluetooth and open the Device Configurator app.
3. Select the detector's serial number in the Available Devices list.



4. Input the pairing code displayed on the detector's screen to complete the BLE pairing.



Calibration

Perform a calibration to adjust the sensitivity levels of sensors and ensure accurate responses to gases.

The detector can be calibrated in four ways:

- Manual calibration via the instrument's menu.
- Via the Safety Suite Device Configurator (SSDC) software.
- Via the Device Configurator (DC) app.
- Use an IntelliDox docking module. For further reference see the *IntelliDox User Manual*.



CAUTION

- Move to a normal atmosphere (20.9% v/v O₂) that is free of hazardous gas.
- Calibrate the Detector before first-time use and then on a regular schedule, depending on use and sensor exposure to poisons and contaminants. Honeywell recommends that the sensors be calibrated regularly and at least once every 180 days (6 months).

Details for calibration and maintenance:

- There are two types of technologies for the combustible sensor section on this gas detector, a) Catalytic bead technology both filter and unfiltered, and B) Non-dispersive IR.
- 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.

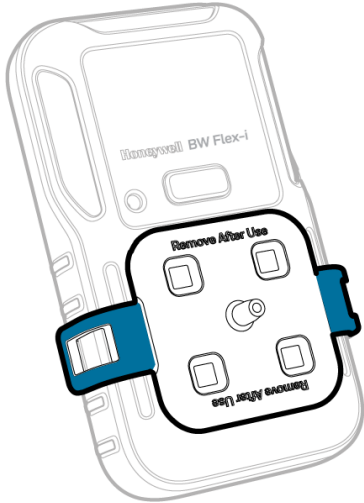
Correction factor for LEL sensor

Gas	CF Value (vs Methane)
n-Butane	1.5
Hydrogen	0.90
Methane	1
n-Pentane	1.7
Propane	1.6
Custom	0.1-15

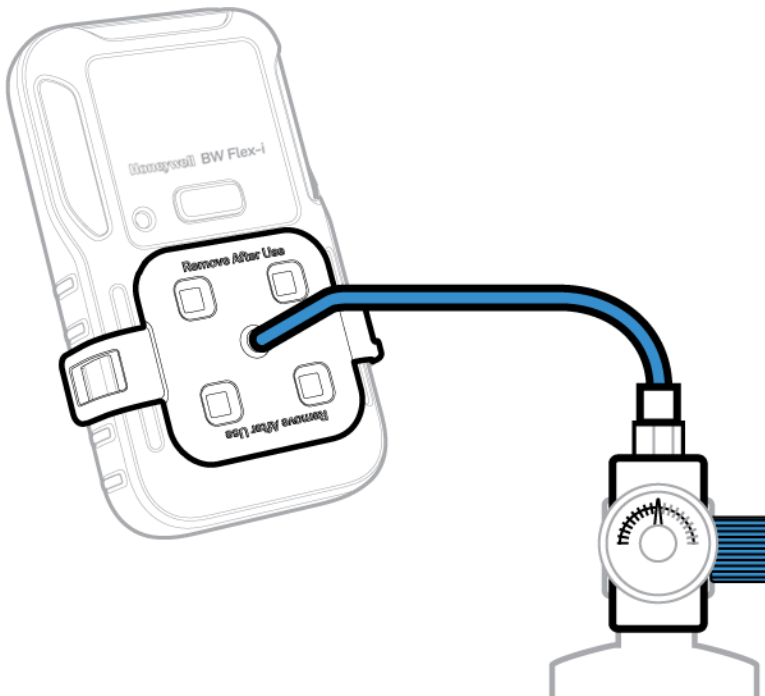
Calibrate the Detector via the menu

Apply gas from a cylinder to the sensors manually through the calibration cap, and using the detector's menu.

1. Turn On the BW Flex Series detector, and wait to sensors warm up.
2. Double-press the button to enter the menu.
3. Single press the button to locate **Calibration** and hold the button to select it. The detector starts Zero Calibration automatically.
4. Place the cap over the detector, and then press down on both tabs to snap it into place.



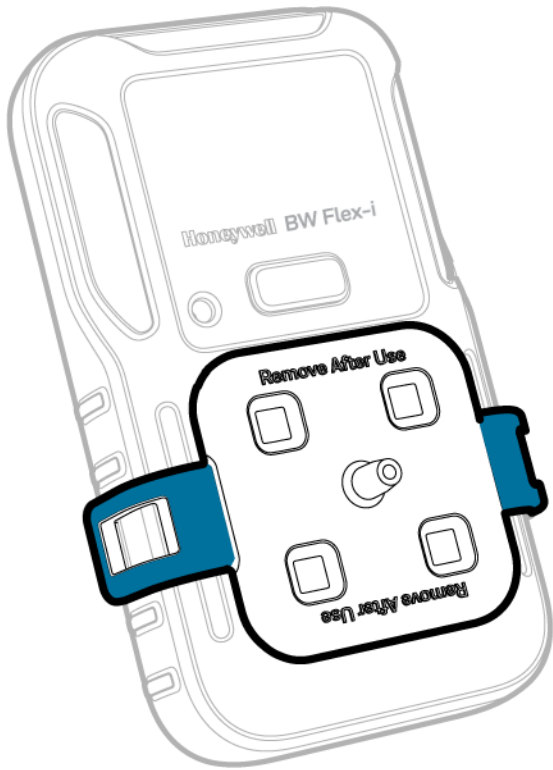
5. Attach the hose.



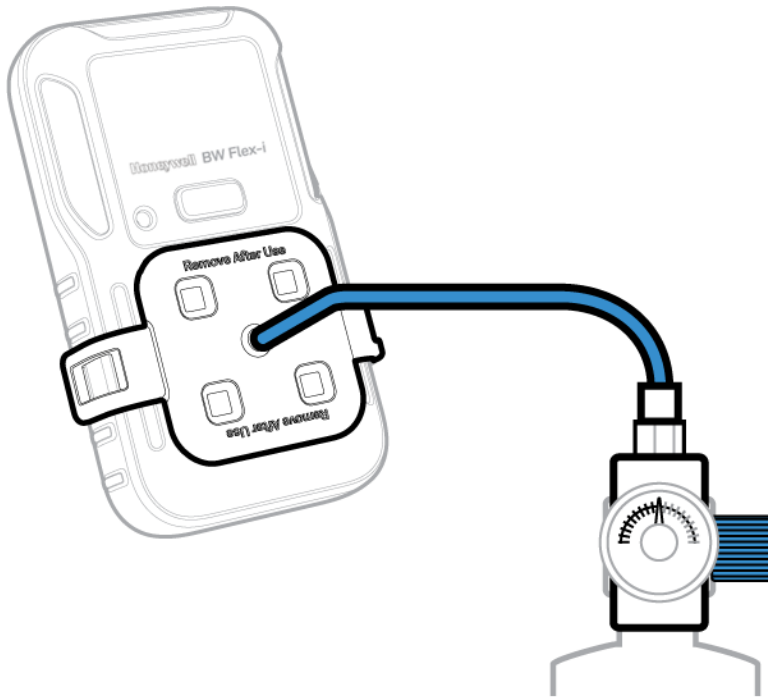
6. Follow on-screen instructions.
7. Remove the calibration cap; the detector starts purging, and the slots LEDs flash amber clockwise. After the purge is complete, the detector is back to the regular mode.

calibrate the detector via the DC app on a mobile device

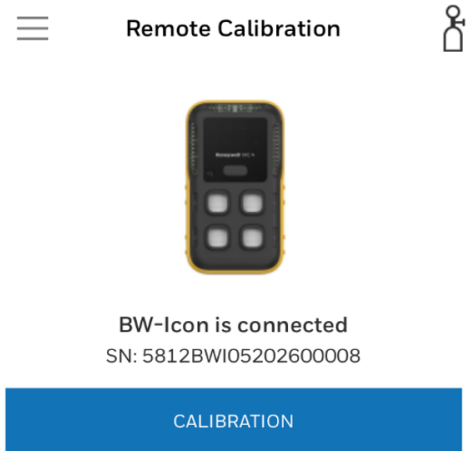
1. Turn On the BW Flex Series detector. Place the cap over the detector, and then press down on both tabs to snap it into place. Wait a few minutes to sensors warm up.



2. Attach the hose.



3. In your mobile device, open the **Device Configurator** app and pair with the detector. For pairing details go to See "Bluetooth Pairing" on page 11 for more information.
4. In your mobile device, tap on the Menu button and then select **Remote Calibration**
5. Tap **Calibration**, the IntelliFlash flashes amber to indicate the calibration process has started.



6. Enter the **Operator Name**, and then Tap **START**. The detector will start Zero Calibration; the IntelliFlash flashes amber.

1 — 2 — 3

Operator Name

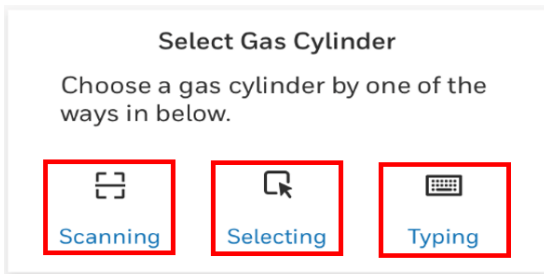
Please enter your name for this calibration. It will appear in the calibration report.

User

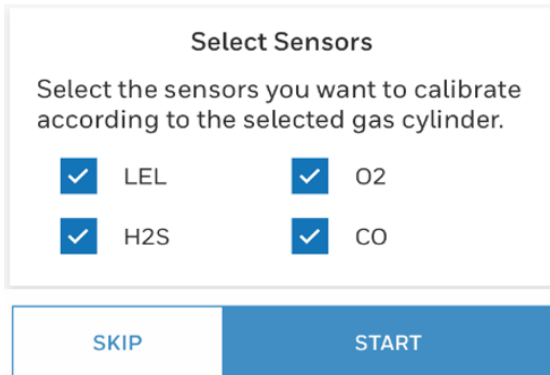
CANCEL START

7. After the Zero calibration is completed, use any of the following three ways to select the gas cylinder, and then click **START**.

8.



9. Select the sensor that you want to calibrate and then tap **START**.



10. Open the cylinder valve by turning the pressure regulator knob counterclockwise. Follow onscreen instructions to know when to apply gas. The IntelliFlash lights amber.

Calibration



BW-Icon is connected
SN :5812BWI05202600008



✓ — 2 — 3

Apply gas.

Cylinder No:MixtureBW

Calibration



BW-Icon is connected
SN :5812BWI05202600008



✓ — 2 — 3

Span Calibrating...

? LEL	50	%LEL
? O2	18	%VOL
? H2S	25	ppm
? CO	100	ppm

11. After calibration is complete, a report is displayed. Tap the Return Arrow button to exit the report and go back to the remote calibration main screen.



Calibration Certificate

Calibration Certificate
Certification Generated On: Jul 09 2020 17:49:47

Instrument Information

Product Name BW-ICON
Serial Number 18120W03202000008
Firmware V1.000

Calibration Summary

Calibration Performed On Jul 09 2020 17:49:47
Calibration Operator User
Zero Calibration Pass
Span Calibration Pass
Recommended Action N/A

Calibration Details

Zero Calibration Results

Sensor	Gas	Unit	Result	Concentration
L1L	L1L	%LEL	Pass	0
O2	O2	%VOL	Pass	0
H2S	H2S	ppm	Pass	0
CO	CO	ppm	Pass	0

Span Calibration Results

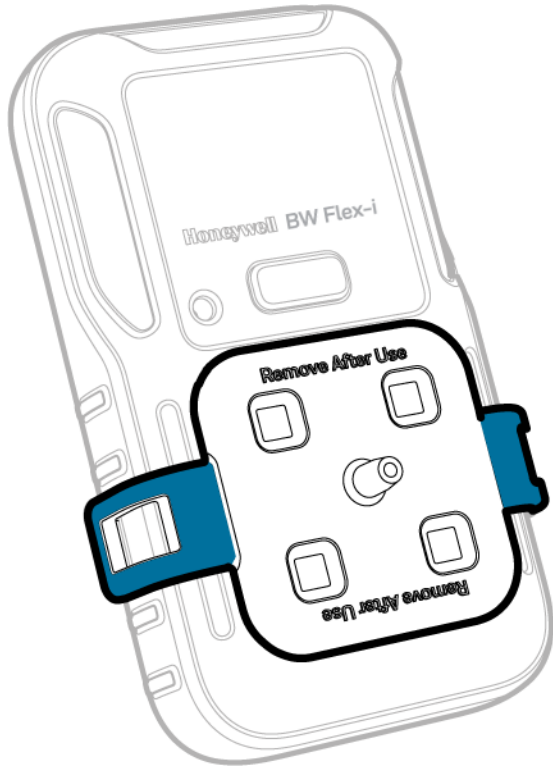
Sensor	Gas	Unit	Result	Concentration
L1L	L1L	%LEL	Pass	50
O2	O2	%VOL	Pass	18
H2S	H2S	ppm	Pass	25
CO	CO	ppm	Pass	100

The detector will start purge, and the slots LEDs will flash amber clockwise. After purge is completed, the detector will go to the regular mode.

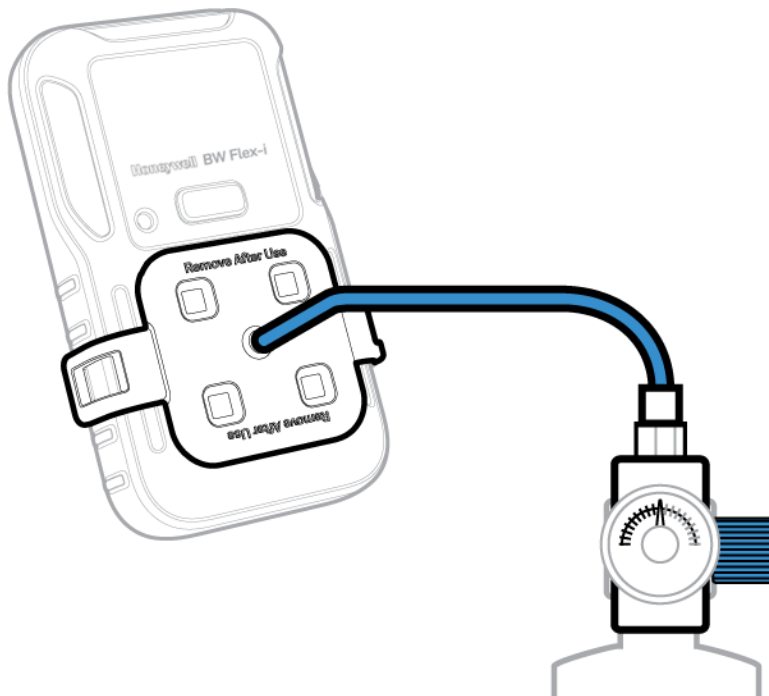
calibrate the detector via the SSDC

Calibrate the BW Flex Series via the Safety Suite Device Configurator (SSDC) software . You can download SSDC from: https://explore.honeywell.com/safety_suite_device_configurator.html

1. Turn On the BW Flex Series. Place the cap over the detector, and then press down on both tabs to snap it into place. Wait a few minutes to sensors warm up.

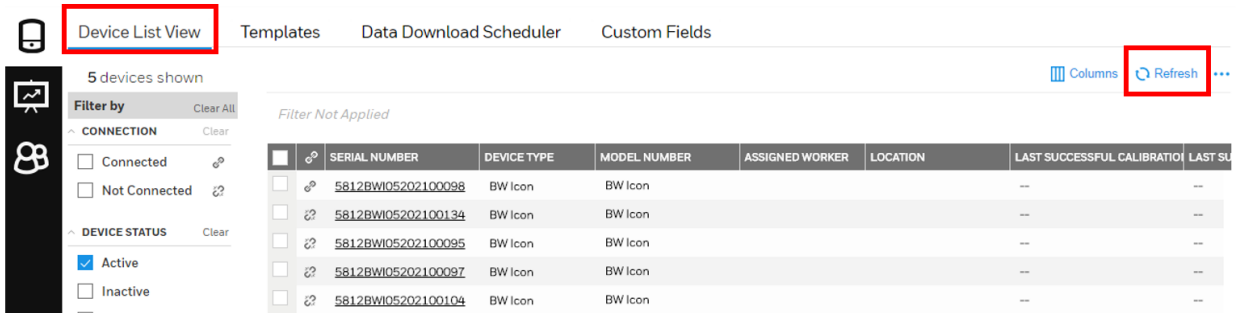


2. Attach the hose.

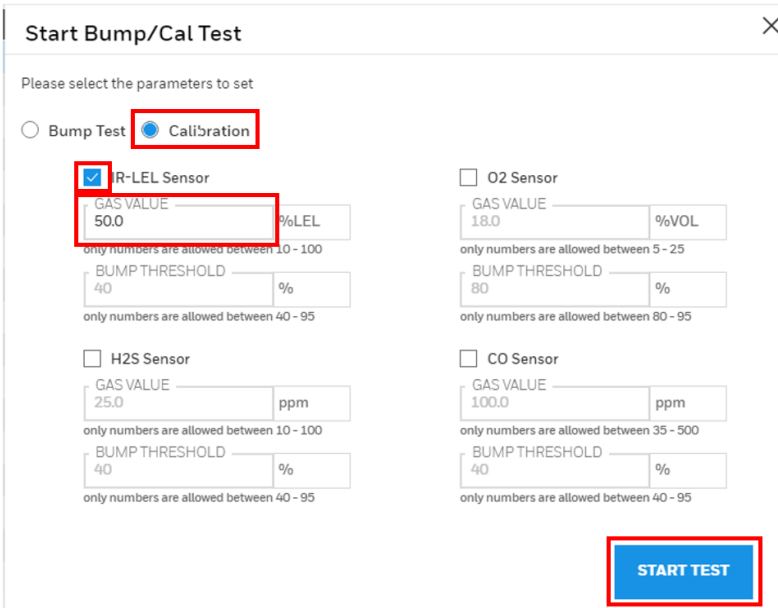


3. Connect the instrument to the PC via the IR link.
4. Log in to SSDC with an authorized user account. For further information, refer to the SSDC User Manual.

- Click on the **Device View** tab, the SSDC scans for connected devices or you can click Refresh to browse manually.



- Select the connected detector and then click **Start Bump/Cal.**
- In the Start Bump/Calibration Test window, do the following:
 - Select **Calibration**;
 - Select the sensor. You can modify the default values;
 - Click **START TEST**
 - Wait for several seconds. The detector starts Zero Calibration, and the four slots LEDs flash blue clockwise. After Zero Calibration is complete, the LEDs are solid blue if calibration passed, or red if failed.



- Optional Step. You can either remove or keep the IR link connection, the remaining operation is in the instrument.
- Apply span gas when the slot LEDs start flashing. Span calibration starts after the instrument detects gas. The four slots LEDs flash blue clockwise. After the Span calibration is completed, the LEDs are solid green if calibration passed, or red if failed.
- Remove the calibration cap. The detector starts purging, and the slots LEDs flash in amber clockwise. After the purge is complete, the Detector is back to the regular mode.

Bump Test

The detector can be tested in four ways:

- Via the detector's menu.
- Via the Safety Suite Device Configurator (SSDC) software on a computer.
- Via the Device Configurator (DC) app on a mobile Detector.
- Via the IntelliDoX Docking Module. For further reference see the *IntelliDoX User Manual*.



CAUTION

- Move to a normal atmosphere (20.9% v/v O₂) that is free of hazardous gas.
- Honeywell recommends bump testing 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.

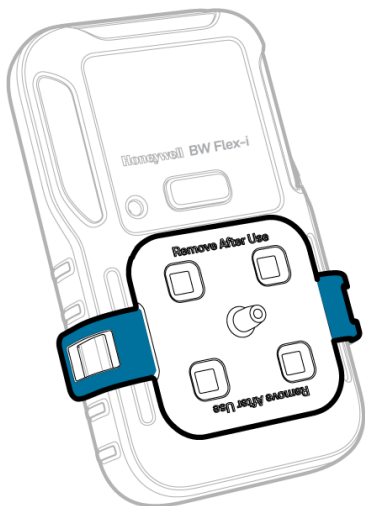
Details for Bump Test and maintenance:

- Recommendations for initial checking of the equipment on a routine basis including the maximum time interval between calibrations.
- 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.

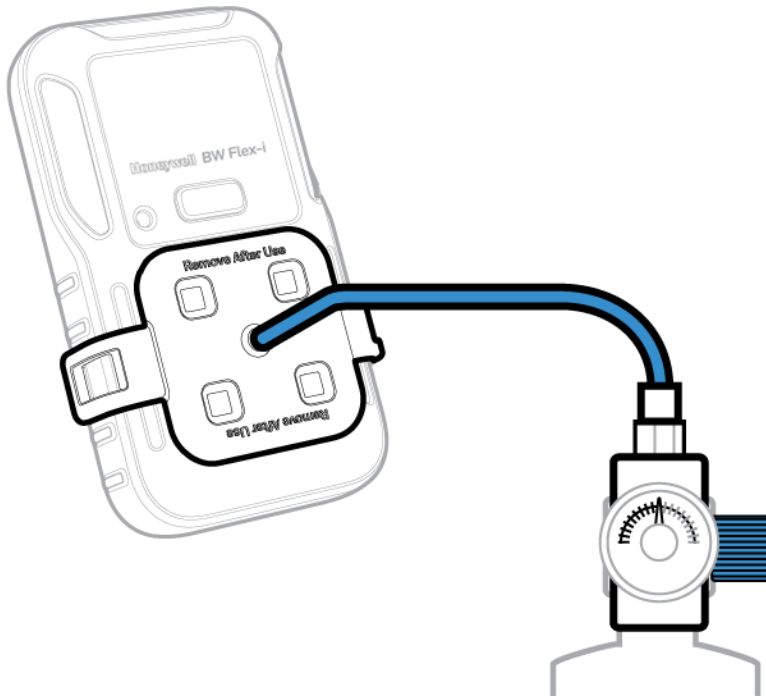
Bump Test via the menu

Apply gas from a cylinder to the sensors manually through the calibration cap, and using the detector's menu.

1. Turn On the BW Flex Series. Place the cap over the detector, and then press down on both tabs to snap it into place. Wait a few minutes to sensors warm up.



2. Attach the hose.

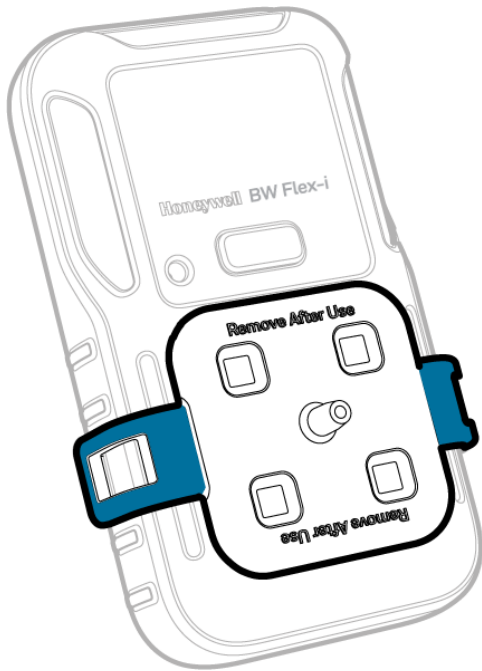


3. Double press the button to enter the menu.
4. Hold the button to enter the bump test, then the slot LED starts flashing blue.
5. Apply span gas when the slot LEDs start flashing. The bump test starts after the BW Flex Series detects gas. The four slots LEDs flash blue clockwise. After the bump test is completed, the LEDs are solid green if calibration passed, or red if failed.
6. Remove the calibration cap; the detector starts purging, and the slots LEDs flash in amber clockwise. After the purge is complete, the detector is back to the regular mode.

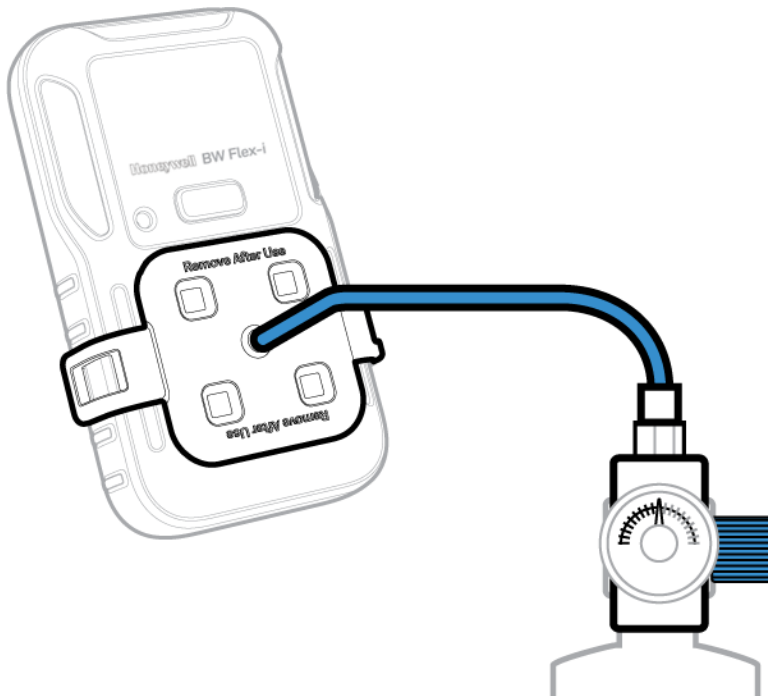
Bump Test via SSDC

Apply gas from a cylinder to the sensors manually through the calibration cap, and using the Safety Suite Device Configurator (SSDC) software on a personal computer (PC). You can download SSDC from: https://explore.honeywell.com/safety_suite_device_configurator.html

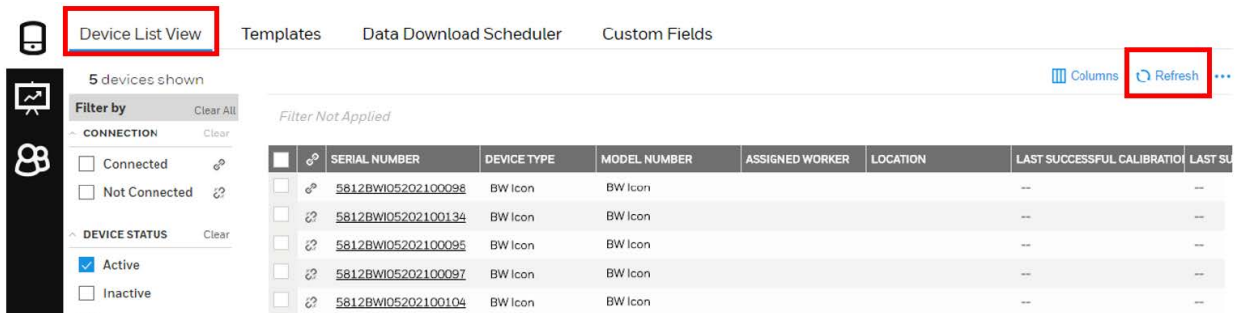
1. Turn On the BW Flex Series. Place the cap over the detector, and then press down on both tabs to snap it into place. Wait a few minutes to sensors warm up.



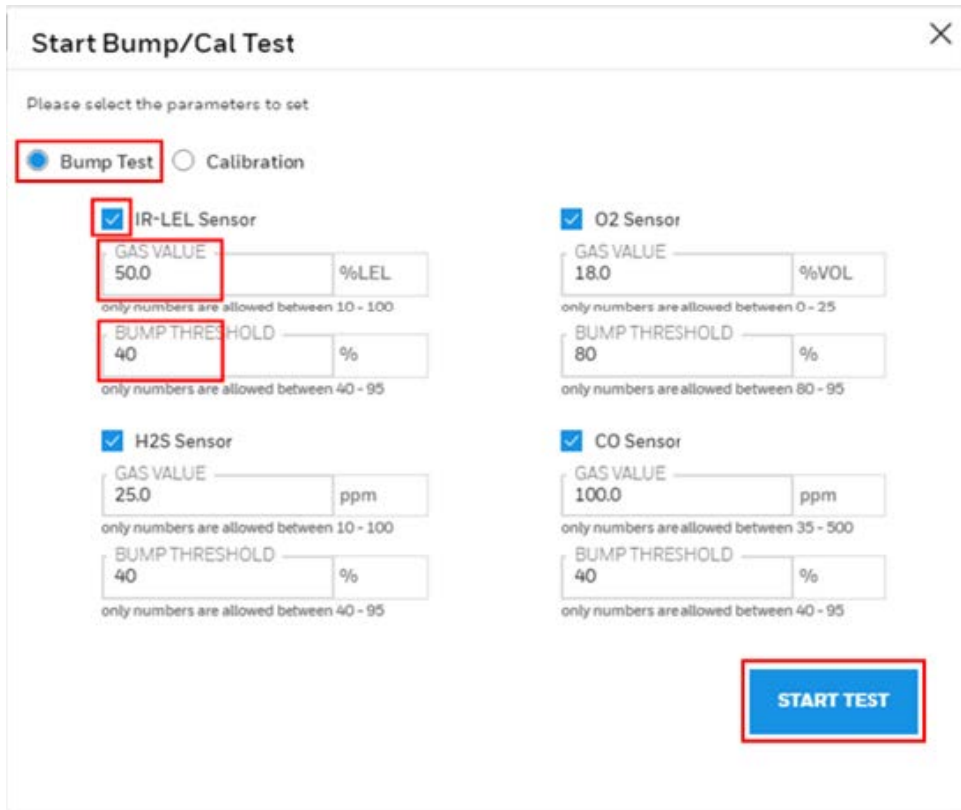
2. Attach the hose.



3. Connect the detector to the PC via the IR link.
4. Log in to SSDC with an authorized user account. For further information, refer to the *SSDC User Manual*.
5. Click the **Device View** tab, the SSDC scans for connected devices, or you can click Refresh to browse manually.



6. Select the connected detector and then click **Start Bump/Cal.**
7. In the Start Bump/Calibration Test window, do the following:
 - Select Bump
 - Select the bump test sensor. You can modify the default values
 - Click **START TEST**

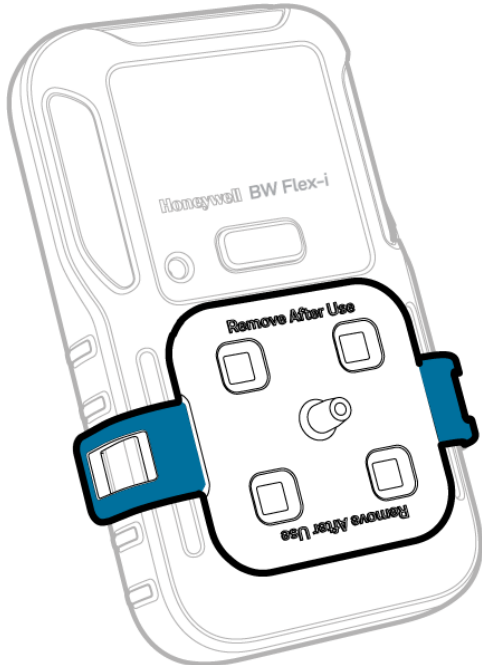


8. Optional Step. You can either remove or keep the IR link connection. The remaining operation is in the instrument.
9. Apply span gas when the slot LEDs start flashing. The bump test starts after the BW Flex Series detects gas. The four slots LEDs flash blue clockwise. After the bump test is completed, the LEDs are solid green if calibration passed, or red if failed.
10. Remove the calibration cap. The detector starts purging, and the slots LEDs flash in amber clockwise. After the purge is complete, the Detector is back to the regular mode.

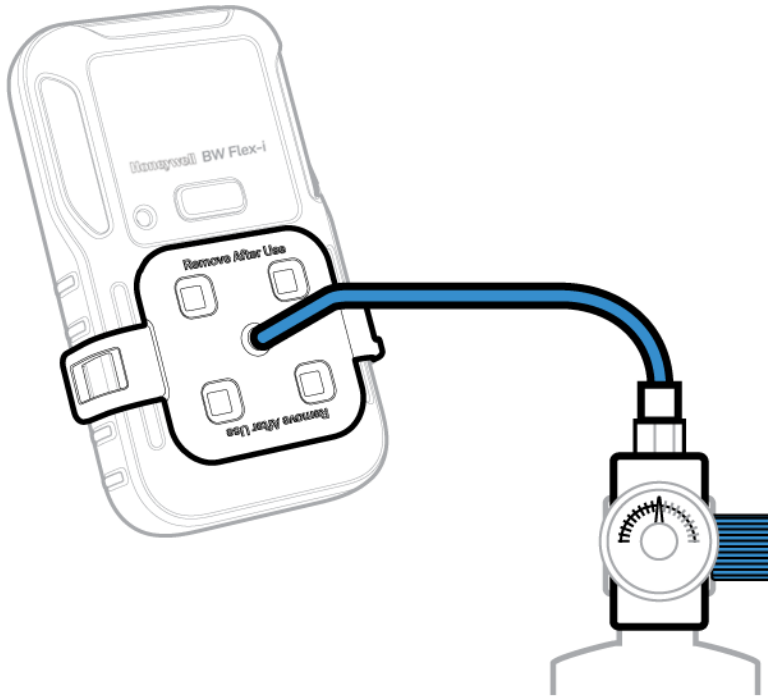
Bump Test via DC

Apply gas from a cylinder to the sensors manually through the calibration cap, and using the Device Configurator (DC) app on a mobile device.

1. Turn On the BW Flex Series. Place the cap over the detector, and then press down on both tabs to snap it into place. Wait a few minutes to sensors warm up.



2. Attach the hose.



3. In your mobile device, open the Detector Configurator app, and pair with the detector.

For details, go to See "Bluetooth Pairing" on page 11 for more information.

4. In your mobile device, tap on the Menu button and then select **Bump Test**.
5. Enter the **Operator Name**, and then Tap **Save**. The IntelliFlash LED flashes amber to indicate the bump test process has started.
6. In the Input Gas level screen, check the sensor that you want to test and enter the Span gas concentration, and then tap **START**.
7. Open the cylinder valve by turning the pressure regulator knob counterclockwise. The Zero process starts and a message is displayed when succeeded.
8. Follow onscreen instructions to know when to apply gas and when the bump test process is complete.
9. The process is complete when the results are displayed on your mobile device. You can now remove the cap by pulling on the tabs.

Force Calibration and Bump

Force Calibration has a higher priority than Force Bump. If you perform Force Calibration, there is no need to execute the Force Bump again.

You can execute a Force Calibration/Bump via four methods: IntelliDoX docking module, SSDC, DC app, and detector's menu.

Force Calibration/Bump via the IntelliDoX is executed automatically by the docking module.

To execute the Force Calibration/Bump via the SSDC, connect the detector to a computer and follow SSDC onscreen instructions.

To execute the Force Calibration/Bump via de DC app, pair the detector to the mobile phone and follow onscreen instructions.

To execute the Force Calibration/Bump via the detector's menu, enter the calibration/bump menu and when **Cal Now/Bump Now** is displayed, press and hold the button and within 60s you can enter to the flow of cal/bump.

Zero Calibration



Over time and through use, the sensor baseline at zero exposure may drift from the manufacturer’s baseline. For optimal performance Honeywell recommends that you zero the sensors periodically. Zero Calibration only uses fresh air for calibration.

1. Double press the button to enter the menu.
2. Single press to switch to ZERO CAL.
3. Press and hold the button to execute the Zero Calibration.



Zero calibration starts automatically, and the sensor LEDs light clockwise in blue.

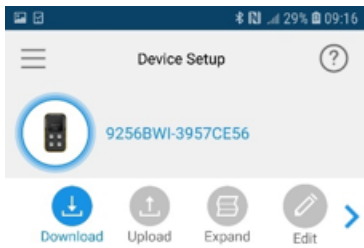
After Zero calibration passes, "ZERO PASS" is displayed, the sensor LEDs light green for 5 seconds, the sound alarm beeps, and then the detector is back to the regular mode.

Capture Real Time Reading

1. Pair your BW Flex Series with a mobile device.
2. In your mobile device, open the **Device Configurator** app.
3. Tap **Menu** 
4. Tap **Measurements** 
5. Tap **Start Recording**.

Set the Detector via Device Configurator

1. Pair the BW Flex Series with the Device Configurator App on your mobile device.
2. Tap the menu button 
3. Tap **Detector Setup** 
4. Tap **Download**, to get the configuration table.



5. Tap **Edit** to change the settings, and then tap **Upload** to apply them.

3 Maintenance

Charge the Battery

You can charge the battery via an IntelliDox docking module, the charger adaptor & USB Charger, and the Cradle Charger.

Note:

The Li-ion battery may require 5 hours to full capacity. The time needed to charge will increase if the Detector is activated. The detector may be warm during charging; this is normal. To preserve the life of the battery, deactivate the Detector when not in use.

The battery operating temperature is -40°C to $+60^{\circ}\text{C}$.





WARNING

The Honeywell BW™ Flex Series uses a Li-ion battery that may present a risk of fire or chemical burn hazard if misused. Do not disassemble, heat above 100°C , or incinerate.



CAUTION





- To avoid personal injury and property damage, adhere to the following:
- Charge the battery immediately when the Detector emits a low battery alarm.
- Charge the battery in a safe area that is free of hazardous gas in a temperature range from $0-45^{\circ}\text{C}$.
- Charge the battery using Honeywell charger adapters designed for this Detector only. Do not use any other charger adapters. Failure to adhere to this caution can lead to fire and explosion.
- If replacing the battery, use only approved Li-ion polymer cells that are available through Honeywell. User of any other cell can cause fire and explosion.

- 

 Dispose of used Li-ion 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 Li-ion cells away from children.

Battery Capacity Indicator

Status	Indication or Alarm	Duration with LEL sensor	Duration with LEL IR sensor
Normal	Static 2-bar battery icon. The Inteliflash flashes green.	>5h	>12h
	Static 1-bar battery icon. The Inteliflash flashes green.	≤5h	≤12h
Battery low	Static empty battery icon. Display exclamation mark instead of SAFE. The IntelliFlash flashes amber.		≤1h
Battery critical	Flash empty battery icon. The IntelliFlash flashes amber, the Alarm LEDs flashes red alternatively. The detector beeps and vibrates.		20min

Battery Icons

Status	Percentage	Indication or Alarm
Charging	Less than 100%	
Fully charged	100%	
Depleted	0%	
Can't charge	0 %	


Notes when charging with an IntelliDoX:

- The auto-power is off if there is no communication with the IntelliDox for five minutes.
- For further information, refer to the IntelliDoX user Manual.

Charge the battery via the USB Charger

1. Press and hold the button to deactivate the detector.
2. Plug the USB charger into an USB port.
3. Attach the charging adapter to the charging Port.

Charge the battery via the Cradle Charger

1. Deactivate the detector.
2. Insert the detector into the detector bay and press down firmly on the detector to ensure contact between the detector and the contact pins. The detector can be activated during charging.
3. After charge is complete, the full battery icon is displayed 
4. Remove the detector.



Note: For further information, refer to the *Cradle Charger User Manual*.

Update Firmware via DC

Update the firmware via the Device Configurator app on a mobile device.

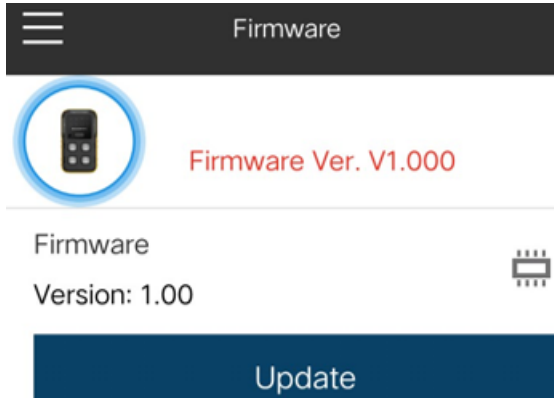
Note: The firmware can be updated via IntelliDoX, SSDC, or Device Configurator app.

1. Open the Device Configurator app on your mobile device.

2. Tap **Menu** 

3. Tap **Firmware** 

4. Tap **Update**



5. Tap **YES** to start the Firmware update, and wait until the "Update Successfully" system message is displayed. The detector goes to the Regular mode.

4 Additional Information

Learn from about strategic information related to the Honeywell BW™ Flex Series Detector.

Sensor Poisons and Contaminants

Several cleaners, solvents, and lubricants can contaminate and cause permanent damage to sensors.

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
Dish soaps	Mold releasing agents	
Citrus based cleaners	Polishes	
Alcohol based cleaners		
Hand sanitizers		
Anionic detergents		
Methanol (fuels and antifreezes)		

Sensor Specifications

Sensor	Measuring Range	Resolution	Measuring Unit	Working Temperature
CO	0-2000 ppm	1 ppm	ppm, mg/m ³ , μmol/mol	-40°C to +60°C
H2S	0-200 ppm	1/0.1ppm	ppm, mg/m ³ , μmol/mol	-40°C to +60°C
SO2	0-150ppm	0.1ppm	ppm, mg/m ³ , μmol/mol	-20°C to +50°C intermittent -40°C to +55°C
O2	0-30% v/v	0.1% VOL	%VOL	-40°C to +60°C
LEL IR	0-100% LEL CH4	1% LEL CH ₄	%LEL, % v/v	-40°C to +60°C
LEL	0-100% LEL	1% LEL	%LEL, % v/v	-20°C to +60°C

Sensor	SPAN Count Down	Default SPAN Value	Calibration Flow Rate	Brand New Sensor Stable Time
CO	60 sec	100ppm	500ml/min	0.5 hour
H2S	60 sec	25ppm	500ml/min	0.5 hour
SO2	90 sec	20ppm	500ml/min	0.5 hour
O2	60 sec	18.0% v/v	500ml/min	24 hours
LEL IR	60 sec	50% LEL CH4	500ml/min	
LEL	60 sec	50% LEL	500ml/min	

Sensor	Default Low Alarm	Default High Alarm	Default TWA	Default STEL
CO	35ppm	200ppm	35ppm	50ppm
H2S	10.0ppm	15.0ppm	10.0ppm	15.0ppm
SO2	2.0ppm	5.0ppm	0.5ppm	1.0ppm
O2	19.5% v/v	23.5% v/v	N/A v/v	N/A v/v
LEL IR/LEL	10% LEL	20% LEL	N/A LEL	N/A LEL

General Specifications


Size	109mm x 62mm x 32mm(4.29" x 2.44" x 1.26") without Clip
Weight	190g
Appearance Colour	Amber, Dark Gray
Working Temperature	-40°C to +60°C -20°C to +60°C with Catalytic LEL sensor.
Working Humidity	5%-95% RH
IP Rating	IP 66/68, 45min@underwater 1.2m
Gas Type	CO,H ₂ S,O ₂ ,SO ₂ ,CH ₄ , combustible gases*
Display	Monochrome 160X80px, black and white display.
Alarms Condition	Low Alarm, High Alarm, TWA Alarm, STEL Alarm, Negative Indication, Over-Range Alarm.
Visual Alarm	4 Red LED
Audible Alarm	95 dBA at 10cm
Battery Life	40 days (8 hour per day at room temperature with NDIR CH4 sensor). 16 hours at room temperature with the LEL sensor.
Event / Datalogging	50 alarm events. Continuous datalogging (45 days at 15 seconds interval and 8 hours per day). User configurable datalogging interval (5 to 60 seconds).
Calibration	Manual calibration from device menu. calibration with Safety Suite Device Configurator or Device Configurator.

* ask your Honeywell representative about new sensors availability.

Time Out Events

Action	Time Out
Auto exit error screen and power off	5 seconds
Auto skip error message screen and enter warmup	5 seconds
Auto exit menu and turn off Icon LED	6 seconds
Auto exit Force bump and Calibration	30 seconds
Exit auto detected span gas	60 seconds
Pairing, bump, and calibration result display	5 seconds
BLE pairing timeout	60 seconds

Troubleshooting

Problem	Cause	Solution
"Battery 0%" message is displayed	Depleted battery	Charge the rechargeable battery pack
The detector, side LEDs, all bays, and IntelliFlash blink for 5 seconds when press the button to power on.	The detector expired	The Detector is over two years lifetime, cannot continue to use.
Error 4006	Sensors fail or no communication	Replace the sensor or the PCBA
Error 3001	RTC fail	Replace PCBA
Error 1007	Data flash fail	Replace PCBA
Error 1006	Temperature sensor fail	Replace PCBA
Error 1008	BLE fail	Replace PCBA
Sensor bay and IntelliFlash light for 5 seconds	Sensors fail	Replace the sensors
	Bump overdue and must carry out bump testing before use.	Hold the button for 3 seconds to start the bump testing or detector will auto power off after 30 secs.
Detector alarms after start-up sequence	Sensor not stabilized	SPE O2 sensor: Wait for at least 10 min before power on.
	Sensors require calibration	NDIR-CH4 sensor must carry out calibration 5 minutes after warmed up for power on
Detector does not respond when button is pressed	The battery state is critically low, or the battery is depleted.	Charge the rechargeable battery pack
	Detector is performing operations that do not require user input.	Button operation restores automatically when the operation ends.
Detector Doesn't accurately measure gas.	Sensor(s) require calibration.	Carry out calibration.
	Detector is colder/hotter than gas temperature.	Allow the Detector to attain ambient temperature before use.

Problem	Cause	Solution
	The sensor filter is blocked.	Replace sensor filter
The detector does not alarm.	Alarm setpoints set incorrectly.	Define the alarm setpoint in Detector Configurator.
	Alarm setpoints set to zero.	Define the alarm setpoint in Detector Configurator.
	Detector is in calibration mode.	Complete the calibration procedure.
	Detector is in DC mode.	Stop data communication via a mobile phone.
	Detector is in IR communication.	Stop data communication via IR Link.
The Detector alarms without reason	The sensor is exposed to a puff of the target gas.	Detector is operating normally. Use caution in suspected areas. Check the peak gas exposure reading.
	Alarm setpoints are set incorrectly.	Define the alarm setpoint in Detector Configurator.
	Sensors require calibration.	Carry out calibration.
	Missing or faulty sensors.	Replace the sensors.
	Battery temperature is out of acceptable range.	Move to lower temperature ambient to charge the battery.
Battery indicator doesn't display when charging.	Battery is depleted.	Charge the battery for 8 hours. If the battery indicator doesn't light after charging, contact Honeywell
Error 4004	The sensor is in the wrong slot.	Correct the sensor position.

DataLogs and Event Logs

DataLogs

The detector records various information to create a report. The detector is capable of storing 45 days of data at 15 sec interval, 8hrs/day.

When the memory is full, the detector replaces the oldest datalogs with the most recent datalogs.

Event Logs

The detector records a maximum of 50 gas alarm, maintenance events, and error conditions.

The following event types are recorded:




- 1: Gas high
- 2: Gas low
- 3: Gas STEL
- 4: Gas TWA
- 5: Gas over range
- 6: Gas negative
- 7: Sensor failure
- 8: Multi alarm
- 9: Zeroing
- 10: Spanning
- 11: Bumping
- 12: Disabled

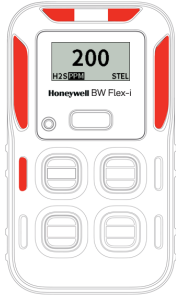
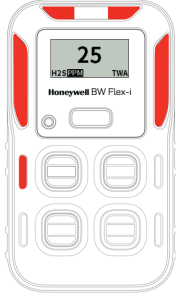
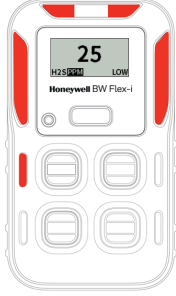

Alarms

A gas detected event supersedes anything. When a gas alarm occurs, even when displaying other behavior, the Detector goes back to the home screen and displays appropriate gas behavior.

When more than one alarm occurs on one sensor, the highest priority is displayed: Over Range > High > STEL, TWA, Low, Negative.

When more than one sensor alarms, the alarm status is displayed as multi-alarm no matter what kind of gas alarms they are.

Alarm type from high priority to low		Description
Multi-Alarm		"MULTI ALARM" message is displayed. Alarm LEDs alternately flash. Alarmed sensor LEDs flash too. It beeps and vibrates.
Over Limit		"+OL" message is displayed. Alarm LEDs alternately flash. Alarmed sensor LED flashes too. It beeps and vibrates.
High		"HIGH" message is displayed. Alarm LEDs alternately flash. Alarmed sensor LED flashes too. It beeps and vibrates.

Alarm type from high priority to low		Description
STEL		"STEL" message is displayed. Alarm LEDs alternately flash. Alarmed sensor LED flashes too. It beeps and vibrates.
TWA		"TWA" message is displayed. Alarm LEDs alternately flash. Alarmed sensor LED flashes too. It beeps and vibrates.
Low		"LOW" message is displayed. Alarm LEDs alternately flash. Alarmed sensor LED flashes too. It beeps and vibrates.
Negative		"-OL" message is displayed. Intelliflash LED flashes amber. Alarmed sensor LED turns solid red.

Replacement Parts

SR-M1-1S	CO sensor, Analog
SR-H1-1S	H2S sensor, Analog
SR-X1-1S	Oxygen sensor, Analog

SR-S3-1S	SO2 sensor, Analog
SR-M2-1S	CO sensor, Digital
SR-H2-1S	H2S sensor, Digital
SR-X2-1S	Oxygen sensor, Digital
SR-S4-1S	SO2 sensor, Digital
SR-W5-1S	LEL IR sensor, Digital
SR-W6-1S	LEL sensor, Digital
SR-DUMM-1S	Dummy sensor
CP-BC1	Back shell, Yellow
CP-BC1B	Back shell, Black
CP-VM-1	Vibration motor
CP-BAT	Battery pack
CP-KF	Klickfast stud
CP-SF2	LCD and Sensor frame
CP-SS	Sensor Membrane(kit of 4)
CP-SS-K1	Sensor membrane(kit of 20)
CP-AG	Alligator Clip
CP-SS-AF-K1	Filters(10pcs)
CP-SCREW-K1	Housing screws(20pcs)
CP-LCD-K1	LCD Kit
CP-FC3	Front enclosure
CP-LBL-3	Sensor label pack
CP-MPCB3	PCBA, BW Flex-i
CP-MPCB4	PCBA, BW Flex4

Accessories:

CP-AF-K3	External Filter Kit
GA-PA-1-MC5	Mains 5-way charger
CP-USB	USB Charger,5.8V,1A
DX-NEST-CP	IntelliDox nest

DX-CP	IntelliDox
CP-C01-5	5 way cradle charger
CP-TC-1	Calibration cap

Security Information

This manual provides additional information for the customer and organization related to identification and risk management associated with the use of the system in connected infrastructure. It applies to a system with the following components:

- Safety Suite Detector Configurator
- IntelliDoX Docking Station
- Gas Detection Instruments

Some controls such as custom operating system, encrypted data for firmware updates, and elimination of confidential data from the system (except for gas log files if designated as confidential by the customer) are already built into the system. This manual is focusing on additional controls that could be added by the customer.

Security considerations for system installation

- To minimize unauthorized external access to the system, Safety Suite Detector Configurator should operate behind a sufficiently robust and current company firewall.
- Ensure virus protection is installed, signature files are up-to-date, and subscriptions are active as per applicable IT policies.
- Allow only digitally signed software from trusted sources to run on PC, where Safety Suite Detector Configurator is installed.
- To minimize the possibility of tampering with docking stations, instruments, and PCs, it is recommended to limit physical access to authorized personnel only.

Security considerations for instruments equipped with wireless connectivity

- Bluetooth communication is always ON. It cannot be turned OFF by the user.
- If possible pair devices ONLY when in a physically secure area

System Monitoring

It is highly recommended to perform regular security inspections of the system and review authorized access data.

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