BW Technologies
by Honeywell

GASALERTCLIP
E X T R E M E
2 OR 3 YEAR GAS DETECTOR

50104153-002/05-2012

GasAlert Clip Extreme

The GasAlertClip Extreme 2 or 3 year gas detector ("the detector") is a personal safety device that warns when hazardous gas exceeds factory set alarm setpoints. The detector stores and transmits gas alarm event data. It is your responsibility to respond properly to the alarms.

Gases Detected

Oxygen (O_2)	Percent by volume (%)
Carbon monoxide (CO)	Parts per million (ppm)
Hydrogen sulfide (H_2S)	Parts per million (ppm)
Sulfur dioxide (SO_2)	Parts per million (ppm)

⚠ Safety Information—Read First

Warning: Substitution of components may impair Intrinsic Safety.

Warning: Bump test the O_2 sensor before each day's use to confirm its 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 are activated.

- Do not activate the detector after the date on the package.
- This product is a gas detector, not a measurement device.
- Perform a self-test each day prior to use.
- Ensure the sensor grill is free of dirt, debris, and is not obstructed.
- Calibrate and/or bump test the detector in a normal atmosphere (20.9% O_2) that is free of hazardous gas.
- Periodically test the response of the sensor to gas by exposing the detector to a target gas concentration that exceeds the low alarm setpoint. Manually verify that the audible and visual alarms are activated.
- Periodically calibrate the GasAlertClip Extreme oxygen (O_2) detector.

♻ Recycling

This instrument contains a lithium battery. Do not mix with the solid waste stream. Spent batteries should be disposed of by a qualified recycler or hazardous materials handler.

About This Instruction Sheet

|	
Title	GasAlertClip Extreme Instruction Sheet
Description	This Instruction Sheet is a reference for the activation, operation and maintenance of the GasAlertClip Extreme 2 or 3 year gas detector.
Part Number	50104153-002
Release Date	05-2012

At a Glance
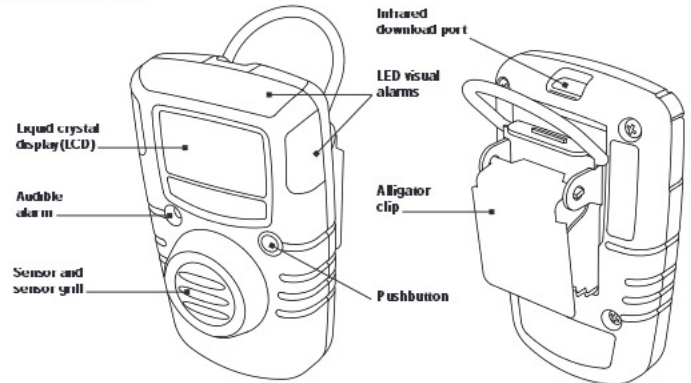
LCD and Elements

☑ *Test*	Self-test status
HIGH LOW	High and low alarm setpoints
📶	Data transmission
max% ppm	Maximum exposure in alarm
COH2SO2	Gas type
HIGH LOW **ALARM**	Alarm condition
88.8 months days hours ⏱	Detector life-remaining indicators
88.8 months days hours ⏱	Months-days-hours since last maximum gas exposure alarm

◯ Pushbutton Functions

Activate detector	Press and hold ◯ for 5 seconds
Perform self-test	Press and hold ◯ for 1 second when LCD displays **Test**
Calibrate oxygen sensor	Press and hold ◯ for 3 seconds
Perform auto zero	Press and hold ◯ for 3 seconds
View maximum gas exposure	Press ◯ within 24 hours of a gas alarm
Transmit data	Press ◯ when LCD displays **Prn** and 📶
Display gas alarm setpoints	Press ◯ during normal operation

Activate the Detector

1. Move to a normal atmosphere $(20.9\% \, O_2)$ that is free of hazardous gas.
2. Press and hold the Pushbutton ○ for 5 seconds.
3. The detector beeps and vibrates once.
4. The LEDs flash once.
5. The detector performs self-test. This make take several minutes. For more information, refer to **Self-Test**.
6. When Self-Test is successful, the detector beeps and vibrates once and the LEDs flash once. The detector then displays the Detector Life-Remaining Clock.

Note: Once the detector is activated, it cannot be deactivated except after a battery life-ending alarm. For more information, refer to **Automatic Battery Test and Safety Shutdown Mode.**

Self-Test

The detector performs self-test before any other function. Self-test must be performed in a normal atmosphere $(20.9\% \, O_2)$ that is free of hazardous gas. After self-test is performed, wait 30 seconds before using the detector to ensure that it accurately detects gas.

When is self-test required?

- Prior to each day's use; and
- When the LCD displays **Test**.

Perform Self-Test

1. Move to a normal atmosphere $(20.9\% \, O_2)$ that is free of hazardous gas.
2. Press and hold ○ for 1 second.
3. Confirm that the following tests are performed:
   a) The detector beeps and vibrates once.
   b) The LEDs flash once.
   c) The LCD displays all elements.
   d) The LCD flashes **Test** while sensor integrity and battery life are tested.
   e) The LCD displays low and high alarm setpoints.
   f) If an alarm has occurred in the last 24 hours, the LCD displays the maximum gas exposure value and the hours that have elapsed since the exposure.
   g) The LCD flashes **Prn** and 📶.
4. After self-test is performed, wait 30 seconds before using the detector to ensure that it accurately detects gas.

Self-Test Pass

When self-test is successful, the detector beeps and vibrates once. The LCD displays ☑ to confirm that self-test was successful. **Test** displays again 22 hours after performing self-test to indicate that a new self-test is required.

Self-Test Fail

If self-test fails, the detector beeps 5 times and the LEDs flash before the LCD displays a blank screen. The LCD then returns to the normal operation screen and displays **Test**. Repeat self-test.

If self-test fails 3 consecutive times, the LCD displays a blank screen and the detector deactivates. For more information, refer to Safety Shutdown Mode.

Automatic Battery Test

The detector automatically tests the battery every 2 hours.

Battery Test Fail

If a battery test fails, another test is initiated 30 minutes later. After 5 consecutive battery test failures, the LCD displays a blank screen and the detector deactivates. For more information, refer to **Safety Shutdown Mode.**

Detector Life-Remaining Clock

The detector life-remaining clock counts down the amount of operating time remaining in months, then days, then hours.

Detector Life-Ending Alarm

The detector life-ending alarm occurs when the battery life-remaining clock displays **0 hours**. The detector continues to operate for a maximum of 8 hours after the detector life-ending alarm activates. To deactivate the detector, press ○.

Audible: 1 beep every 30 seconds
Visual: 1 flash every 30 seconds
Vibration: 1 slow vibration every 30 seconds

Gas Alarms

Low Gas Alarm

Audible: 1 slow beep every second
Visual: 1 slow flash every second
Vibration: 1 slow vibration every second

High Gas Alarm

Audible: 2 fast beeps every second
Visual: 2 fast flashes every second
Vibration: 2 fast vibrations every second

Battery life decreases rapidly when the detector is in alarm condition. When alarm gas level returns to an acceptable range, the alarm deactivates.

Gas Alarm Setpoints

Gas alarm setpoints are factory configured and cannot be modified.

Display Setpoints

Press ○ during normal operation.

Factory Setpoints

Detector Model	Low Alarm	High Alarm
GasAlertClip Extreme O_2	19.5%	23.5%
GasAlertClip Extreme CO	35 ppm	200 ppm
GasAlertClip Extreme H_2S	10 ppm	15 ppm
GasAlertClip Extreme H_2S	5 ppm	10 ppm
GasAlertClip Extreme SO_2	5 ppm	10 ppm

Customize Setpoints

Detectors may be configured with customer-specified alarm setpoints. For more information, contact BW Technologies by Honeywell.

Safety Shutdown Mode

The detector initiates safety shutdown mode when:

- Self-test fails 3 consecutive times;
- Automatic battery test fails 5 consecutive times; or
- The detector has not been manually deactivated within 8 hours of detector life-ending alarm activation.

If the event logs have not been downloaded, contact BW Technologies by Honeywell.

What happens during safety shutdown?

- The LCD displays a blank screen when the detector initiates safety shutdown mode.
- The detector beeps and vibrates.
- The LEDs flash 2 times per second for 15 seconds.
- The LCD displays **OFF** or an error code, depending on the reason for the safety shutdown.

Auto Zero (H$_2$S, SO$_2$, and CO models only)

Auto zero can only be performed when the low alarm setpoint is below the setpoints shown in the following table:

Model	Low Alarm Setpoint
GasAlertClip Extreme CO	25 ppm
GasAlertClip Extreme H$_2$S	5 ppm
GasAlertClip Extreme SO$_2$	3 ppm

Perform Auto Zero

1. Move to a normal atmosphere (20.9% O$_2$) that is free of hazardous gas.
2. Press and hold ○ for 3 seconds. If self-test has not been completed in the previous 22 hours, the detector performs self-test.
3. The LCD displays **ZEr ppm** and the gas type.
4. The LCD displays low alarm setpoint and high alarm setpoint.
5. If an alarm has occurred in the past 24 hours, the LCD displays the maximum gas exposure value and the hours that have elapsed since exposure began.
6. The LCD flashes **Prn** and 📶.

Maximum Gas Exposure

When a gas exposure alarm initiates, the detector records the maximum gas exposure level and begins calculating the number of hours elapsed since the maximum exposure alarm began.

For each new exposure greater than the current maximum exposure, the detector resets the maximum gas exposure level to the new level and resets **hours** to **0**.

After 24 hours of gas readings in the acceptable range, the detector resets maximum gas exposure level and **hours** to **0**.

View Maximum Gas Exposure

1. Within 24 hours of receiving a gas alarm, press ○.
2. The LCD displays the low and high alarm setpoints.
3. If a maximum gas exposure has occurred within 24 hours, the LCD displays the maximum gas exposure level and number of hours elapsed since the maximum exposure alarm began.
4. If the maximum gas exposure is beyond the detection range, the LCD displays **OL** (over limit).

Calibrate Oxygen (O$_2$) Detector

O$_2$ detector calibration must be performed in a safe area that is free of hazardous gas in an atmosphere of 20.9% oxygen.

When is oxygen detector calibration required?

- Every 30 days; or
- When the LCD displays **CAL** and the detector life-remaining value.

A calibration may also be performed if the O$_2$ detector has not been used recently or is in a false alarm state.

Perform O$_2$ Detector Calibration

1. Move to a normal atmosphere (20.9% O$_2$) that is free of hazardous gas.
2. Press and hold ○ for 3 seconds. If self-test has not been completed in the previous 22 hours, the detector performs self-test.
3. The detector beeps and flashes once. The LCD displays **CAL** and **O$_2$**.

O$_2$ Detector Calibration Pass

When O$_2$ detector calibration is successful, the detector beeps and vibrates once, then returns to normal operation.

O$_2$ Detector Calibration Fail

If O$_2$ detector calibration fails, the detector does not beep or vibrate. Repeat O$_2$ detector calibration. If the second attempt fails, contact BW Technologies by Honeywell.

Transmit Gas Event Data

The detector stores the last 10 events such as maximum gas exposure, bump test, and auto zero. The recorded data includes:

- detector serial number;
- detector life-remaining values (months/days/hours);
- self-test performed;
- total number of events that have occurred;
- event type;
- duration of all events;
- gas type;
- alarm level(s) in ppm or %;
- time elapsed since the alarm occurred (days/hours/minutes); and
- duration of the alarm (minutes/seconds).

Transmit data directly to the IR Handheld Printer. Use the IR DataLink to transmit gas event data to a personal computer (PC).

Transmit Data to a Personal Computer

1. Connect the IR DataLink to the computer.
2. Place the detector 2 inches from the IR DataLink.
3. On the detector, press ○ to access the transmission screen.
4. The LCD flashes **Prn** and 📶. Within 5 seconds, press ○ to begin data transmission.
5. During data transmission, the LCD displays ᶿ and 📶 flashes. The LCD displays a percentage value to indicate how much data remains to be transmitted.
6. The detector beeps and vibrates once when transmission is complete.

For more information, refer to the **IR DataLink User Manual**.

Transmit Data to an IR Handheld Printer

1. Place the detector 2 inches from the IR Handheld Printer.
2. On the detector, press ○ to access the transmission screen.
3. The LCD flashes **Prn** and 📶. Within 5 seconds, press ○ to begin data transmission.
4. During data transmission, the LCD displays ᶿ and 📶 flashes. The LCD displays a percentage value to indicate how much data remains to be transmitted.
5. The detector beeps and vibrates once when transmission is complete.

For more information, refer to the **IR Handheld Printer User Manual**.

General Specifications

Shelf life: 1 year before activation
Weight: 76 g (2.7 oz.)
Instrument dimensions:
28 x 50 x 81 mm (1.1 x 2.0 x 3.2 in.)
Operating temperatures:
H_2S: -40 to +50°C (-40 to +122°F)
CO: -30 to +50°C (-22 to +122°F)
SO_2: -30 to +50°C (-22 to +122°F)
O_2: -20 to +50°C (-4 to +122°F)
Internal vibrating operates to :
-15°C (+5°F)
Operating humidity: 5% to 95%
relative humidity (non-condensing)
Audible alarm: ≈ 95 dB at 30 cm (1 ft.)
Visual alarm: Flashing, wide-
angled alarm lens with quad red
LEDs plus alarm LCD readout
Display: Liquid crystal display (LCD)
Sensor type: Electrochemical cells
Detection technique:
Instantaneous alarm
Battery: Lithium, non-replaceable
Ingress protection: IP 66/67
Alarm setpoints: Instant
low and instant high
Calibration:
H_2S, CO, SO_2: Not required
O_2: Self-calibrating
Note: This product has been
classified for use in atmospheres
not more than 21% v/v O_2.

Safety Specifications

Maximum Operating Life,
24-month detector: 2 years
after activation, assuming 3 to 5
minutes of alarm time per day
Maximum Operating Life,
36-month detector: 3 years
after activation, assuming 1.5
minutes of alarm time per day
Detection Range:
H_2S: 0 to 100 ppm
CO: 0 to 300 ppm
SO_2: 0 to 100 ppm
O_2: 0 to 30% by volume

Ratings and Certifications

Classified by UL to both U.S.
and Canadian Standards as
intrinsically safe for Class I,
Division 1, Group A, B, C, D and
Class I, Zone 0, Group IIC
ATEX:
CE 0539 ⟨Ex⟩ II 1G
Ex ia IIC T4 Ga IP66/67
DEMKO 08 ATEX 0814213
IECEx:
Ex ia IIC T4 Ga IP66/67
IECEx UL 08.0018
CE:
European Conformity
ABS Type Approved VA-348-169-X

EC Declaration of Conformity

www.gasmonitors.com/
Declarations_of_Conformity

Event Logging Specifications

Number of stored events: Up
to 10 events encountered.
If more than 10 events are
encountered, older events are
replaced by the newer events.
Data transmission methods: Via
infrared port to thermal printer,
or via IR DataLink to computer
(for ordinary locations only)
Information transmitted: Serial
number; life remaining; self-tests
performed; total number and
duration of all events encountered
Last 10 events: Maximum exposure;
MicroDock II bump check; O_2
calibration, or auto zero
Data shown for maximum
exposures and bump checks:
- Gas type and alarm level in ppm
or %
- Time elapsed since the alarm
occurred in days, hours, and
minutes
- Duration of alarm in minutes and
seconds
- Data transmission time: 45
seconds plus 10 seconds per
record

This equipment has been tested and
found to comply with the limits for a
Class B digital device, pursuant to
Part 15 of the FCC rules and ICES-
003 Canadian EMI requirements.
These limits are designed to
provide reasonable protection
against harmful interference
in a residential installation.
This equipment generates, uses and
can radiate radio frequency energy
and, if not installed and used in
accordance with the instructions,
may cause harmful interference
to radio communications.
However, there is no guarantee
that interference will not occur
in a particular installation.
If this equipment does cause harmful
interference to radio or television
reception, which can be determined
by turning the equipment off and
on, the user is encouraged to try to
correct the interference by one or
more of the following measures:
- Reorient or relocate the receiving
antenna.
- Increase the separation between
the equipment and the receiver.
- Connect the equipment into an
outlet on a circuit different from
that to which the receiver is
connected.
- Consult the dealer or an
experienced radio/TV technician
for help.

Limited Warranty and Limitation of Liability

BW Technologies (BW) warrants this
product to be free from defects in
material and workmanship under
normal use and service for a period
of two or three years (depending
upon detector), beginning on the
date of activation. This Warranty
is valid only if the detector is
activated by the date on the
package. 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; or
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
The obligations set forth in this
warranty are conditional on:
d) proper storage, installation,
calibration, use, maintenance
and compliance with the
product manual instructions
and any other applicable
recommendations of BW;
e) 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
f) 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
CONSEQUENTIAL DAMAGES
OR LOSSES, INCLUDING
LOSS OF DATA, WHETHER
ARISING FROM BREACH OF
WARRANTY OR BASED ON
CONTRACT, TORT OR RELIANCE
OR ANY OTHER THEORY.
Since some countries or states
do not allow limitation of the
term of an implied warranty,
or exclusion or limitation of
incidental or consequential
damages, the limitations and
exclusions of this warranty may
not apply to every buyer. If any
provision of this warranty is held
invalid or unenforceable by a
court of competent jurisdiction,
such holding will not affect
the validity or enforceability
of any other provisions.

Warranty Registration
Register the product warranty at:
www.gasmonitors.com/support

Contact BW Technologies by Honeywell

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