

BW Technologies GA24XT-X

BW Technologies GasAlert Extreme Oxygen (O2) Detector User Manual

Model: GA24XT-X

1. PRODUCT OVERVIEW

The BW Technologies GA24XT-X GasAlertClip is a handheld, single-gas detector designed to continuously monitor oxygen (O₂) levels. This device provides reliable detection for up to two years without requiring calibration, recharging, or battery replacement, making it a low-maintenance solution for personal safety and environmental monitoring.

It features audio, visual, and vibration alarms that activate simultaneously when oxygen levels reach preset low or high thresholds. The alphanumeric LCD screen provides essential information, including gas type, alarm set-points, current alarm status, recorded maximum and minimum gas levels, and remaining detector life.

This detector is suitable for various occupational settings, such as petroleum refineries, tanneries, sewage treatment facilities, and paper mills, as well as for general personal safety and ambient air monitoring applications.

Key Features:

- Single-gas detection for Oxygen (O₂).
- Electrochemical cell sensor for continuous monitoring.
- Two-year operational life without calibration, recharging, or battery replacement.
- Simultaneous audio, visual, and vibration alarms.
- Alphanumeric LCD screen displaying critical data.
- Simple operation via a single push button.
- Durable design with a back-mounted alligator clip and concussion-resistant boot.

2. SAFETY INFORMATION

Always prioritize safety when using gas detection equipment. This device is designed to alert users to potentially hazardous oxygen levels. Familiarize yourself with the alarm conditions and proper response procedures.

Alarm Thresholds:

- **Low Alarm:** Factory-set to activate when oxygen levels reach 19.5%.
- **High Alarm:** Factory-set to activate when oxygen levels reach 23.5%.

Alarm Indications:

- **Low Alarm:** Audible beep (once per second), visual flash, and vibration (once per second).
- **High Alarm:** Audible beeps (twice per second), visual flashes (twice per second), and vibration (twice per second).

The alarm deactivates automatically when the gas level returns to an acceptable range. The device logs the maximum gas exposure and the time since that exposure for up to 24 hours.

The detector features an automatic shutdown mode for additional safety, which activates after five consecutive battery test failures, three consecutive self-test failures, or when the detector has reached the end of its two-year operational life.

3. COMPONENTS

The BW Technologies GasAlertClip O2 detector is designed for ease of use and durability. Key components include:

- **Alphanumeric LCD Screen:** Displays real-time gas readings, alarm status, and device information.
- **Single Push Button:** Used for operation and adjustment of display settings.
- **Visual Alarm Bars:** Three bright, wide-angle bars provide clear visual alerts.
- **Audible Alarm:** Emits a 95 dB sound to alert users.
- **Vibration Alarm:** Provides tactile alerts, especially useful in high-noise environments.
- **Back-Mounted Alligator Clip:** Allows secure attachment to clothing, belts, or waistbands.
- **Concussion-Resistant Boot:** Protects the device from physical damage.



Figure 1: Front view of the GasAlertClip O2 detector with its calibration cap. The yellow casing, LCD screen, and sensor grill are clearly visible.



Figure 2: Back view of the GasAlertClip O2 detector, highlighting the robust metal alligator clip for secure attachment and regulatory

4. SETUP

The BW Technologies GasAlertClip O2 detector is designed for immediate use with minimal setup. It is factory-set and does not require initial calibration or battery installation.

Initial Activation:

The device is activated upon first use. Ensure the unit is not activated prior to your intended use to maximize its two-year operational life. Once activated, the device begins its continuous monitoring cycle.

Attaching the Detector:

Utilize the back-mounted alligator clip to securely attach the detector to your clothing, such as a belt, waistband, or lapel. Position the detector in an area where it can effectively monitor ambient air and where alarms can be easily perceived.

5. OPERATING THE DETECTOR

The GasAlertClip O2 detector operates continuously once activated. Its single push button allows for easy interaction with the device's display.

Understanding the LCD Display:

The alphanumeric LCD screen provides critical information at a glance. By pressing the single push button, you can cycle through various display modes, which may include:

- Gas type being monitored (O2).
- Preset low and high alarm set-points.
- Current alarm level (if active).
- Maximum and minimum gas levels recorded within the previous 24-hour period.
- Time elapsed since reaching the maximum or minimum level.
- Remaining detector life.
- Indication if a self-test is required.

Responding to Alarms:

When an alarm condition is met, the detector will simultaneously activate its audible, visual, and vibration alarms. Immediately move to an area with fresh air or a known safe environment when an alarm is triggered. The alarm will deactivate once oxygen levels return to an acceptable range.

Data Logging:

The detector automatically logs and retains data for the 10 most recent gas exposure events. This data can be transmitted via the built-in infrared sensor to a thermal printer (sold separately) or via an infrared Datalink USB adapter to a personal computer (both sold separately) for analysis.

6. MAINTENANCE

The BW Technologies GasAlertClip O2 detector is designed for minimal maintenance, offering a two-year operational life without the need for battery replacement or routine calibration.

Automated Self-Tests:

- The detector automatically tests its built-in lithium battery every two hours to ensure performance.
- The LCD screen will prompt the user daily to initiate a full-function self-test. It is crucial to perform this self-test as prompted.

Performing a Self-Test:

When prompted, press the single push button to initiate the full-function self-test. This test verifies the integrity of the battery, sensor, and internal circuitry, ensuring the device is operating correctly.

Compatibility:

The detector is compatible with the BW Technologies MicroDock II automatic test system (sold separately), which can be used for automated bump testing and record keeping.

7. TROUBLESHOOTING

The GasAlertClip O2 detector is designed for reliable operation. Should you encounter any issues, refer to the following information:

Automatic Shutdown:

The detector will automatically shut down under the following conditions:

- After five consecutive battery test failures.
- After three consecutive full-function self-test failures.
- When the detector has reached the end of its two-year operational life.

If the device shuts down due to test failures, it indicates a potential malfunction and the device should be taken out of service. If it shuts down at the end of its two-year life, it is functioning as designed and requires replacement.

Persistent Alarms:

If the detector continuously alarms despite being in an environment believed to have safe oxygen levels, or if it fails to deactivate after moving to fresh air, it may indicate a sensor issue or the end of the device's operational life. Do not rely on a malfunctioning device for safety. Replace the unit if it exhibits persistent or incorrect alarm behavior.

8. SPECIFICATIONS

Detailed technical specifications for the BW Technologies GasAlertClip O2 detector:

Specification	Value
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Specification	Value
Gas Type	Oxygen (O2)
Measuring Range	0 to 30% by volume
Temperature Range	-4 to +122 degrees F (-20 to +50 degrees C)
Humidity Range	5% to 95% RH (noncondensing)
Audible Alarm Sound Level	95 dB
Dimensions (H x W x D)	3.2 x 2.0 x 1.1 inches (8.1 x 5.0 x 2.8 cm)
Weight	2.7 oz (76 g)
Unit Life	2 years
Battery Type	Lithium, non-replaceable
Certifications	CE, ATEX (Directive 94/9/EC), UL 913 (Intrinsically Safe)
Water Resistance	Yes

9. WARRANTY AND SUPPORT

The BW Technologies GasAlertClip O2 detector is designed for a fixed operational life of two years, during which it is expected to perform without the need for calibration or battery replacement. This two-year life span effectively serves as the product's operational guarantee.

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