

# BW Clip4

## Four-Gas Portable Gas Detector

The BW Clip series revolutionized wearable single gas detection with the safety of always-on simplicity. And now we've done it again in multi-gas detection. Meet the BW Clip4 always-on four gas detector from Honeywell. No charging, no replacements, no hassle. Just clip it on and get the job done. Because for two years, you know – it's on.



PHYSICAL SPECIFICATIONS		
SIZE	Physical size shall be no larger than 12.0 x 6.8 x 3.2 cm / 4.7 x 2.7 x 1.3 in.	
WEIGHT	Weight of instrument shall be no more than 233 g / 8.2 oz. including alligator clip.	
CASE MATERIAL	Case material shall be rugged, impact-resistant, non-corrosive composite material that will prevent spark generation and shall be available in black or in high visibility safety-yellow.	
INTEGRAL BOOT	The instrument shall be equipped with a built-in concussion-proof boot.	
HANDLING	Unit shall easily attach to pocket or belt.	
CARRYING ATTACHMENTS	Unit shall be equipped with a high-tension stainless steel alligator clip. Clip should have an integrated D-ring large enough to allow connection of various carrying accessories.	
USER INTERFACE		
DISPLAY TYPE	Alphanumeric LCD (Liquid Crystal Display) type display with simultaneous and continuous readouts for each gas monitored in ppm, %LEL and % v/v values, as applicable, showing the real-time gas concentrations present.	
VISUAL DISPLAY	The detector's display (LCD) must advise: <ul style="list-style-type: none"><li>• Gas type monitored</li><li>• Continuous readout of life remaining in months, then days</li><li>• Alarm level encountered: low or high, including level as ppm or % volume concentration</li><li>• Alarm set points: low and high</li><li>• Peak (maximum) gas exposure since last reset</li></ul>	
DISPLAY SYMBOLS (ICONS)	The detector's LCD shall also include icons that clearly advise: <ul style="list-style-type: none"><li>• Alarm type and alarm level encountered</li><li>• Gas hazard and alarm level encountered</li><li>• Life-ended warning</li><li>• Detector on heart beat</li><li>• Diagnostic or notification warning</li><li>• Display peak gas exposures</li><li>• Stealth mode</li></ul> There shall be no requirement to access hidden switches for any detector operation.	
KEYPAD/SWITCHES	One-button operation must: <ul style="list-style-type: none"><li>• Activate the detector</li><li>• Display alarm set points</li><li>• Display peak gas exposures</li><li>• Initiate auto-zero</li><li>• Enter calibration mode</li><li>• Enter bump test mode</li></ul>	
MONITOR CAPABILITY		
CONFIGURATIONS	The gas detector must be available in a 4 gas model that continuously and simultaneously monitor for oxygen, combustible/methane gases, hydrogen sulfide, carbon monoxide as applicable.	
GASES DETECTED AND MEASURING SPECIFICATIONS		
GASES	STANDARD MEASURING RANGE	RESOLUTION
HYDROGEN SULFIDE (H <sub>2</sub> S)	0 - 100 ppm	1 / 0.1 ppm
CARBON MONOXIDE (CO)	0 - 1,000 ppm	1 ppm
OXYGEN (O <sub>2</sub> )	0 - 25% vol.	0.1% vol.
COMBUSTIBLE GASES (LEL)*	0 - 100% LEL	1% LEL

\* Caution - the LED IR combustible gas sensor used in BW Clip4 cannot detect certain combustible gases including hydrogen and acetylene. The application should be reviewed to ensure the BW Clip4 can provide adequate detection. For more information, please contact Honeywell Analytics ([www.honeywellanalytics.com](http://www.honeywellanalytics.com)).

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SENSOR TYPE	
GASES	SENSOR TYPE
HYDROGEN SULFIDE (H <sub>2</sub> S)	Electrochemical
CARBON MONOXIDE (CO)	Electrochemical
OXYGEN (O <sub>2</sub> )	Lead Oxide
COMBUSTIBLE GASES (LEL)	LED Infrared
INSTRUMENT POWER	
RUN TIME	Detector must operate continuously for two years (24 months) given a maximum of 2 minutes of alarm per day in normal use. The detector shall not require battery charging or replacement during its operational life. Life-ending warning must occur at least 24 hours prior to termination of the detector's operational life.
BATTERY TEST	The battery must be automatically tested at least every day.
ENVIRONMENTAL	
OPERATING TEMPERATURE RANGE	-20 to +50°C / -4 to +131°F
INTRINSIC SAFETY TEMPERATURE RANGE	-40 to +55°C / -40 to +131°F
HUMIDITY	5 - 95% RH (non-condensing) continuous
INGRESS PROTECTION	IP68
DROP TEST	Ability to continue to perform after dropping the unit 10 times at 0.9 m / 3 ft. and 3 times at 2.1 m / 7 ft.
INSTRUMENT ALARMS	
ALARMS AND TYPE	Simultaneous visual display alarms, audible alarms and vibrator alarms must warn in the event of a gas alarm condition, sensor fault or instrument status alarm.
NUMBER OF GAS ALARMS	Must be equipped with four (4) user-settable alarm levels, including instant low, instant high, TWA (Time- weighted average) and STEL (short-term exposure limit).
VISUAL ALARMS	Instrument must be equipped with at least three flashing alarm bars easily visible from multiple angles. The backlight must light in all alarm conditions. LCD must provide positive clear alarm advice as to which alarm level and type has been exceeded (instant LOW, instant HIGH, TWA, STEL and/or over limit).
AUDIBLE ALARM	Instrument must be equipped with one variable pulsed audible alarm that shall be rated at 95+ dB.
VIBRATOR ALARM	Instrument must be equipped with an internal vibrator alarm for high noise areas.
ALARM SET POINTS	Alarm set points must be adjustable. The current alarm set points shall be displayed at the info screen.
OVER LIMIT EXPOSURE PROTECTION	For exposures above the instrument's measuring range the instrument will provide an over limit latching alarm that must be acknowledged.
END OF LIFE WARNING	Must be equipped with end of life audible and visual alarms.
BASIC OPERATIONAL FEATURES	
INSTRUMENT ACTIVATION	The detector must have one-button activation. ON function must: <ul style="list-style-type: none"> <li>• Test the battery</li> <li>• Display the current alarm set points</li> <li>• Display the number of days remaining until due or number of days over due for calibration and bump testing</li> <li>• Provide a full function self-test of sensor integrity, circuitry integrity and alarm activation</li> <li>• On initial activation, precondition the battery and sensor, as appropriate</li> </ul>
CONTINUOUS OPERATION	The detector must be continuously ON without the ability to turn OFF during its operational life.
FULL FUNCTION SELF-TEST	The detector must automatically run a self-test at least every 24 hours. The self-test must test sensor, battery and circuitry integrity. Detector must advise self-test fail status.
DETECTOR STATUS ADVISE	The detector must – upon activation and on demand thereafter – analyze and test its own operational status and provide alarm advice of any malfunction.
ALARM EVENTS	The detector must record and download a hard copy record via a docking module for the last 70 events encountered including calibration history. Information shall include: gas monitored, alarm level (in ppm or %) encountered, alarm duration in minutes and seconds, time elapsed since each alarm event occurred, life remaining and cumulative alarm time.
EVENT LOGGING	The detector must record and transmit gas alarm events encountered and the time elapsed since the event occurred. Data transmission shall be wireless to a IntelliDoX system. A minimum of the last 70 events must be stored.
PEAK EXPOSURES	The detector must record and display, on demand, the peak exposure to gas (in ppm or %) encountered during the time since the last peak reset.
ACCUMULATED EXPOSURES	Records both TWA (time-weighted average) to toxic gases based on an 8-hour workday and STEL (short-term exposure limit) to toxic gases based on a 5-15 minute user-selectable work period. (STEL period is adjustable.) Must display readings on demand.

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BASIC OPERATIONAL FEATURES (CONTINUED)	
NON-COMPLIANCE FLASH	Instrument informs both the user and supervisor if the unit is out of compliance via a flashing red light at the top of the unit.
BACKLIGHT	Backlight automatically illuminates the display in all alarm conditions (auto with time-out).
AUTO-ZERO	Must be able to activate Auto Zero at any time. To ensure a valid Auto Zero, the instrument will first test the ambient air for background interfering gas before proceeding with the Auto Zero function.
BUMP TEST	Must have ability to enter bump test mode and complete a manual bump test.
SAFETY SHUTDOWN	The detector must have an automatic safety shutdown mode to prevent unsafe usage. Detector must turn off either if self-test fails, battery test fails, or if instruments end of life warning has gone for 24 hours.
LATCHING ALARMS	Must have a user settable option to keep alarms on (even after exposure is back to normal levels) until user acknowledges alarm via button press.
STEALTH MODE	Must have a user settable option to turn off audible and visual alarms and only keep the vibrating alarm active. This must be accompanied by an icon on the LCD screen indicating this mode.
ADJUSTABLE OPTIONS	<p>The unit shall be equipped with user options for the following functions:</p> <ul style="list-style-type: none"> <li>• Adjust STEL period (5-15 minutes in 1 minute intervals)</li> <li>• Set calibration span levels</li> <li>• Calibration interval</li> <li>• Bump test interval</li> <li>• Select combustible gases measurement: 0-100% LEL (Lower Explosive Limit) or Methane gas 0-5.0% v/v</li> <li>• Calibration due date (1 to 365 days, or set to zero for off)</li> <li>• Individual sensor enable/disable.</li> </ul> <p>All adjustments must be made via the Fleet Manager II software and connection of the instrument to the IntelliDoX system.</p>
FLEET MANAGEMENT	
DOCKING SYSTEM	<p>Instrument must be able to dock in a Fleet Manager II system and be able to:</p> <ul style="list-style-type: none"> <li>• Calibrate</li> <li>• Bump test</li> <li>• Event download</li> <li>• Update firmware</li> <li>• Change device configuration</li> </ul>
SOFTWARE	<p>Instrument, connected to an IntelliDoX system, must be able to connect and work with the Fleet Manager II software package. Software must be able to:</p> <ul style="list-style-type: none"> <li>• Set instrument configurations</li> <li>• Download and report on instrument event log</li> </ul>
SET-POINT CHANGE PRIOR TO ACTIVATION	Prior to activation, instrument must be able to be placed in the IntelliDoX system and have its settings and configurations updated. All without activating the unit.
MAINTENANCE	
SENSOR	The detector shall not require sensor replacement during its operational life.
BATTERY	The detector shall not require battery replacement or charging during its operational life.
CALIBRATION	Sensor calibration must be performed at least once every 180 days (6 months), depending on use and sensor exposure to poisons and contaminants.
CERTIFICATIONS AND APPROVALS	
APPROVALS	<p>Detector must have the following approvals:</p> <p> : Class I, Div 1, Group A, B, C, D Class I, Zone 0, Group IIC</p> <p><b>ATEX:</b> II 1G Ex ia IIC T4 Ga</p> <p><b>IECEX:</b> Ex ia IIC T4 Ga</p> <p><b>CE:</b> Conforms to all applicable European directives.</p> <p>For additional certifications, please review the manual or consult Honeywell Analytics.</p>
PERFORMANCE	<p>Detector must meet the following performance standards:</p> <p>China PA CSA C22.2 No.152</p>
RFI/EMI PROTECTION	RFI/EMI protection must comply with EMC directive 2014/30/EU.
MANUFACTURING APPROVAL	The detector manufacturers must be certified compliant with ISO 9001:2008 and ISO/IEC 80079-34 provisions.

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WARRANTY	
WARRANTY	Warranty must be for the operational life of the detector, including sensor and battery, plus shelf life.
STORAGE	
SHELF LIFE	Must have a 6 month shelf life before activation of the unit.
PACKAGING SIZE	Instrument package shall be no larger than 13 x 17.6 x 7.3 cm / 5.1 x 6.9 x 2.9 in.
PACKAGING WEIGHT	Instrument package shall be no larger than 425 g / 15 oz.
AVAILABLE ACCESSORIES	
DOCKING SYSTEM	Instrument must be compatible with an IntelliDoX system.
TEST CAP	Instrument must be compatible with a test cap to complete manual bump and calibrations as well as remote sampling.
SENSOR FILTER	Instrument must have a user replaceable sensor filter available.
ALLIGATOR CLIP	Instrument must have a user replaceable alligator clip available.
MANUAL ASPIRATOR PUMP	Instrument must be compatible with a manual aspirator pump to take remote samples.

## For more information

[www.honeywellanalytics.com](http://www.honeywellanalytics.com)