gas clip
technologies

Portable gas detectors you can count on

Multi Gas Clip Simple

User's Manual

G A S C L I P T E C H . C O M

Contents

Warning Statements/Avertisseement

⚠️ Do not substitute components as this may interfere with the intrinsic safety of the device.

⚠️ Ne remplacez pas les composants car cela pourrait interférer avec la sécurité intrinsèque de l'appareil.

⚠️ DO NOT substitute any other battery type than specified and supplied by Gas Clip Technologies.

⚠️ Only use Gas Clip Technologies parts in the detector. Nonapproved parts will void the warranty and are considered unsafe.

⚠️ Before each use, check that all sensor and alarm ports are clear of any obstructions, i.e. debris or blockage.

⚠️ The detector contains a lithium battery that must be disposed of by a qualified recycler. Check local regulations for proper disposal.

⚠️ DO NOT use IR communications when an explosive atmosphere may be present.

⚠️ If you suspect any malfunction or have any technical problems, contact GCT at 1-877-525-0808.

⚠️ The battery may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 100°C (212°F), or incinerate. Contact Gas Clip Technologies for replacement instructions. Use of another battery may present a risk of fire or explosion.

⚠️ Keep new and used batteries away from children.

⚠️ The detector should be bump tested before use with a known concentration of gas to confirm its ability to respond to gas. Calibrate the detector if the readings are not within the specified limits.

⚠️ Le détecteur doit être testé avant utilisation bosse avec une concentration connue de gaz pour confirmer sa capacité à répondre à gaz. Calibrer le détecteur si les relevés ne sont pas dans les limites spécifiées.

⚠️ Any rapid up-scale reading, followed by a declining or erratic reading, may indicate a gas concentration beyond upper scale limit which may be hazardous.

⚠️ Toute rapide haut de gamme lecture suivie d'une lecture erratique baisse ou peut indiquer une concentration de gaz supérieure à la limite supérieure de l'échelle qui peut être dangereux.

⚠️ Strong Electromagnetic Interference (EMI) may cause incorrect operations.

⚠️ Only the combustible gas detection portion of this instrument has been assessed for performance by CSA International.

⚠️ Under certain extreme circumstances, exposed plastic and unearthed metal parts of the enclosure may store an ignition-capable level of electrostatic charge. Therefore, the user/installer shall implement precautions to prevent the build-up of electrostatic charge, e.g. locate the equipment where a charge-generating mechanism is unlikely to be present and clean with a damp cloth.

⚠️ Users must familiarize themselves with the icons in both non-alarm and alarm states.

⚠️ If the display is missing icons, or cannot be clearly read, discontinue use and contact GCT.

⚠️ The LEL sensor will not detect hydrogen (H2) or acetylene (C2H2) gases; however, due to their cross-sensitive nature, the CO sensor will go into alarm well below 10% LEL.

⚠️ READ FIRST BEFORE OPERATION

Gas Clip Technologies (GCT) Multi Gas Clip Simple (MGC-S) detectors are personal safety devices designed to detect the presence of specific toxic gases: carbon monoxide (CO), hydrogen sulfide (H_2S), oxygen (O_2) and combustible gases/Lower Explosive Limit (LEL). Before operation, ensure that you have been properly trained on the use of the equipment and the appropriate actions to take in the event of an alarm condition.

Detector Components

Entry	Description
1	Alarm Bar LEDs
2	Maintenance LEDs
3	Display
4	Audible Alarm Port
5	Power/Menu Button
6	Dual-Tox Sensor Port
7	LEL Sensor Ports
8	O_2 Sensor Port
9	Calibration Cap Ports
10	IR Communication Window
11	Alligator Clip with Safety Ring
12	Certification Label
13	Model & Serial Number Label

Included in the box: Multi Gas Clip Simple Detector, MGC-S Calibration Cap, MGC-S Quick Start Guide & Calibration Certificate.

Display Components

Display Layout
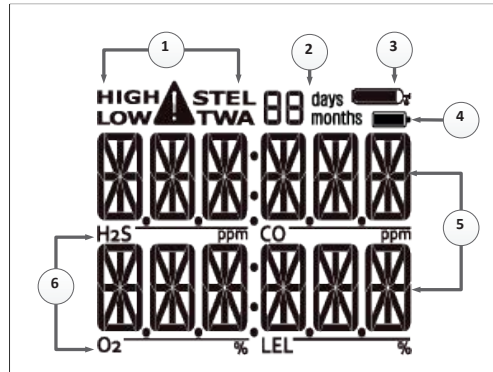
Entry	Description
1	Alarm Condition
2	Life Remaining
3	Calibration/Test Mode
4	Battery Indicator
5	Gas Readings
6	Gas Identifiers

Display Details

When a detected gas has a Gas Reading (5) at or above its alarm thresholds, the Gas Identifier (6) for that particular gas will flash and a warning symbol ⚠ will appear at the top of the display along with the associated Alarm Condition (1).

Detector Life Countdown - Once activated, the detector will display 24 months of Life Remaining (2). Detector will continue to countdown and display the number of months remaining until 30 days remain. Display will then begin showing the number of days remaining until end of life.

During a calibration or bump test, the Calibration/Test Mode icon (3) will appear and flash indicating it is time to apply gas.

The Battery Indicator (4) is displayed as a battery icon which is solid as long as the battery is not low. The battery won't need charging or replacing during the life of the detector. When the battery approaches end of life it will proceed through the following steps:

> 1/3 of battery life remaining: Battery Indicator appears as outline only
> 20 minutes remaining: Single beep/flash; Battery Indicator appears as outline only
> 10 minutes remaining: Single beep/flash; Battery Indicator outline flashes
> 5 minutes remaining: Continuous beep/flash every 5 seconds
> expired: 5 Long beeps/flashes and then "LOW BAT" is displayed

Basic Operation

Button Usage

The following operations are driven by a single power/menu button located on the front of the instrument:

- Turning on the detector
- Menu navigation
    - o Main Menu
    - o Status Menu
    - o Option Menu
- Bump testing
- Calibration
- Latched Alarm acknowledgment
- Back-light activation

Turning On the Detector

To activate the detector, press and briefly hold down the power/menu button. Upon activation, the U˙Ufa ˙VUfg˙will ZUg\˙ž˙h\˙Y˙XYhYWˍcf˙k˙]˙`˙j˙]VfUhˍY˙UbX˙U˙ghˍUfh˙i˙d˙hcbY˙k˙]˙``˙gci˙bX while the detector self-hˍghs the˙j˙]gi˙U˙ž˙j˙]VfUh�
b[˙˙UbX˙Ui˙X]˙V˙Y˙U˙Ufa g. Gas readings will begin to display immediately. Each sensor will show a chasing "0" for the sensor reading while it is stabilizing and being self-tested. Once all sensors have completed the warm up and stabilization sequence (< 65 seconds), the detector is ready to detect all applicable gases.

Chasing "0" - stabilizing   Fully operational

Turning Off the Detector

This detector is not designed to be turned off. Once activated, it will run continuously for 24 months.

Alarms

Default Alarms

Each detector comes preprogrammed with the following factory default alarms for **LOW**, **HIGH**, Time Weighted Average (**TWA**) and Short Term Exposure Limit (**STEL**):

Sensor	LOW	HIGH	TWA	STEL
H_2S	10 ppm	15 ppm	10 ppm	15 ppm
CO	35 ppm	200 ppm	35 ppm	50 ppm
O_2	19.5%	23.5%		
LEL	10%	20%		

Alarms are non-latching by default. Alarm thresholds, STEL intervals, TWA intervals, and latching options may be configured (see **Adjustable Options** section for more details).

Alarm Behavior

The following table describes the detector's behavior under various alarm conditions:

| Alarm Condition	Audible Alarm	Vibration Alarm	Visual Alarm
Low	slow beep	slow vibration	slow LED flash
High	fast beep	fast vibration	fast LED flash
TWA	slow beep	slow vibration	slow LED flash
STEL	fast beep	fast vibration	fast LED flash
Multi	slow/fast beep	slow/fast vibration	slow/fast LED flash
Sensor Error	fast beep	fast vibration	fast LED flash
Low Battery	1/3 of battery life remaining: Battery outline only 20 minutes remaining: single beep/flash, battery outline only 10 minutes remaining: single beep/flash, battery outline flashes 5 minutes remaining: continuous beep/flash every 5 seconds expired: 5 long beeps/flashes then "LOW BAT" is displayed		

Examples of alarm condition screens:

Low

High

TWA
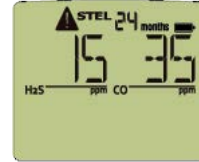
STEL

Multi

LEL
Sensor Error

H_2S
Sensor Error

CO
Sensor Error

O_2
Sensor Error

Low
Battery

Detector Menus/Options

Main Menu

Once activated, the **Main Menu** is accessed by pressing the power/menu button two separate times in quick succession (double-tap). The detector will display in the following order:

1. **Life Remaining** – Number of months and days left before the 24 month life of the detector expires. Months remaining will display until there are less than 30 days remaining. From that time, until the end of life, only days remaining will display.

2. **Date/Time** – Current date & time automatically sets every time the instrument is communicated via GCT IR Link, MGC-S Dock or MGC-S Wall Mount Dock.

3. **User Message** – A unique programmed message, up to 36 alpha-numeric characters, can be assigned to individual detectors (refer to the **Adjustable Options** section). If the User Message does not fit on one screen, it will scroll right-to-left twice. If no User Message is set up, the detector will skip ahead to the Sub-Menu Prompts: **"SHOW STATUS"** & **"SHOW OPTION"**. Default user message is "**GAS CLIP TECHNOLOGIES**".

4. **Sub-Menu Prompts** - Pressing the power/menu button briefly during a Sub-Menu prompt, **"SHOW STATUS"** (to access the Status Menu) or **"SHOW OPTION"** (to access the Option Menu), will cause the detector to show more information for that Sub Menu. If the power/menu button is not pressed, the detector will immediately return to normal operation.

Status Menu

The **Status Menu** is accessed by pressing the power/menu button once during the "**SHOW STATUS**" prompt. The detector will display in the following order:

1. "**L. CAL ____**" – the last calibration date
2. "**CAL DUE**" or "**CAL IN XXXd.**" – denotes if a calibration is due or how many days until it is due (will be displayed only if a calibration interval has been set up)
3. "**L. BUMP ____**" – the last bump test date
4. "**BUMP DUE**" or "**BUMP XXXd.**" – denotes if a bump test is due or how many days until it is due (will be displayed only if a bump test interval has been set up)
5. "**TWA**" – current Time Weighted Average readings
6. "**STEL**" – current Short Term Exposure Limit readings
7. "**HIGH**" – peak sensor readings
8. "**CLEAR ALL**" prompt – press power/menu button once during **"CLEAR ALL"** prompt to clear the TWA, STEL and Peak sensor readings

Calibration Information - The date of the last calibration, along with the number of days remaining until the next calibration is due, will be displayed. If calibration is due, the detector must be calibrated (refer to the **Calibration** section).

Bump Test Information - The date of the last bump test, along with the number of days remaining until the bump test is due, will be displayed. If a bump test is due, the detector must be bump tested (refer to the **Bump Testing** section).

Peak Levels - The detector will display the current **TWA** and **STEL** readings, followed by the peak concentrations recorded for each sensor since the last **"CLEAR ALL"**.

Clear Peak Levels - Pressing the power/menu button during the **"CLEAR ALL"** prompt will cause the **TWA**, **STEL** and peak concentrations to be cleared. ***Note: this does not remove the information from the internal memory logs of the detector.***

Option Menu

The **Option Menu** is accessed by pressing the power/menu button once during the "**SHOW OPTION**" prompt. The detector will display in the following order:

1. "**FW VER**" – current firmware version
2. **TWA** - set alarm limits
3. **STEL** - set alarm limits
4. **LOW** - set alarm limits
5. **HIGH** - set alarm limits

Firmware Version - It is recommended to use the most current firmware version available. The most current firmware version can be found and easily updated at any time from the **Resources** page of the **GCT website** at www.gascliptech.com.

Alarm Set Points - The current alarm limits for **TWA**, **STEL**, **LOW** and **HIGH** will be displayed in sequence. Set points can be adjusted using the GCT IR Link.

Adjustable Options

The detector features the following options that can be configured using the GCT IR Link, MGC-S Dock or MGC-S Wall Mount Dock:

User Message - An optional, user-programmable, text message can be used to show company branding, a unit identifier or any other pertinent information. The User Message will be displayed right after the date and time each time the **Main Menu** is accessed.

Alarm Limits - Each sensor contains separate alarm threshold values that tell the detector when to go into alarm. Alarm limits may be disabled by setting them to zero.

⚠**Caution:** Confirm alarm levels with local laws/regulations before operation.

SAFE Display - If Safe Display is enabled, screen will display **"SAFE"** if there are no gas or instrument alerts.

Self-test Lock - If a sensor fails a self-test, the detector shows **"Err"** on the display and goes into high alarm. By default, the alarm can be silenced by pressing the power/menu button. The self-test lock option prevents the alarm from being silenced.

Maintenance Notification - If maintenance notification is enabled, the detector will periodically flash the maintenance LED when a bump test or calibration is due. Otherwise, if the option is disabled, the detector will only show the maintenance text on the display.

Dock Lock - Dock Lock prevents bump tests and calibrations without the use of the GCT IR Link, MGC-S Dock or MGC-S Wall Mount Dock.

Latching Alarms - Alarms are non-latching by default, so the detector will cease to alarm and return to normal operation when the gas readings fall back within the set limits. Latching alarms will hold the detector and its display in its peak alarm condition until the power/menu button is pressed.

TWA Method - The algorithm used to calculate the TWA can be set to either an average over a moving window (OSHA) or as a cumulative average (ACGIH).

TWA Interval - The TWA interval defines the timeframe over which the long-term average is calculated. Default is 8 hours.

STEL Interval - The STEL interval defines the timeframe over which the short-term average is calculated. Default is 15 minutes.

Sensor Enable/Disable - Individual sensors can be disabled. A disabled sensor is completely removed from the detector's display for sensor readings, alarm limits and calibrations.

⚠**Caution:** A disabled sensor will not measure gas or detect alarm conditions.

Bump Interval - The bump interval controls how often the detector notifies the user to bump test the sensors. The interval can be individually adjusted for each sensor using the GCT IR Link software.

Calibration Interval - The calibration interval controls how often the detector notifies the user to calibrate the sensors. The interval can be individually adjusted for each sensor using the GCT IR Link software.

Calibration Gas - When the detector is calibrated, it scales the sensor readings to match the concentrations of the applied gases. The calibration gas concentrations can be adjusted to match the respective levels contained within the gas bottle. Default is: 25ppm H_2S, 100ppm CO, 18% O_2 and 50% LEL (2.5% vol CH_4).

%-by-Volume CH_4 - Allows the detector to display gas readings as %-by-volume CH_4 rather than % LEL. The conversion rate can be configured by specifying what the methane concentration is for 50% LEL (typically 2.5% in North America and 2.2% in Europe).

Language - The detector will display all its text prompts in any of six languages: English, German, French, Spanish, Italian or Portuguese.
Note: "OL", "ERROR" and sensor icons (H2S, CO, O2 & LEL) remain the same for all languages.

Detector Maintenance

Bump Testing

The detector can be configured to keep track of regular bump testing intervals in a Bump Log. The interval can be individually adjusted for each sensor using the GCT IR Link software. When a programmed bump test comes due, or if the last bump test has failed, then the detector's display will continually flash **"BUMP DUE"** until the detector has been successfully bump tested. Performing a bump test that will be recorded in the Bump Log can be done either automatically: insert the detector into the MGC-S Dock or MGC-S Wall Mount Dock, or manually: apply gas according to the **Manual Bump Test Instructions** described below.

Manual Bump Test Instructions

Press the power/menu button two separate times in quick succession (double-tap) to access the **Main Menu**. The display will then show, in the following order:
1) Unit Life Remaining
2) Current Date/Time
3) User-Programmed Text Message
4) **"SHOW STATUS"** Prompt - When the screen displays **"SHOW STATUS"**, quickly press and release the power/menu button to display the current calibration status followed by the current bump test status.

1.   2.   3.   4.

Press power/menu button
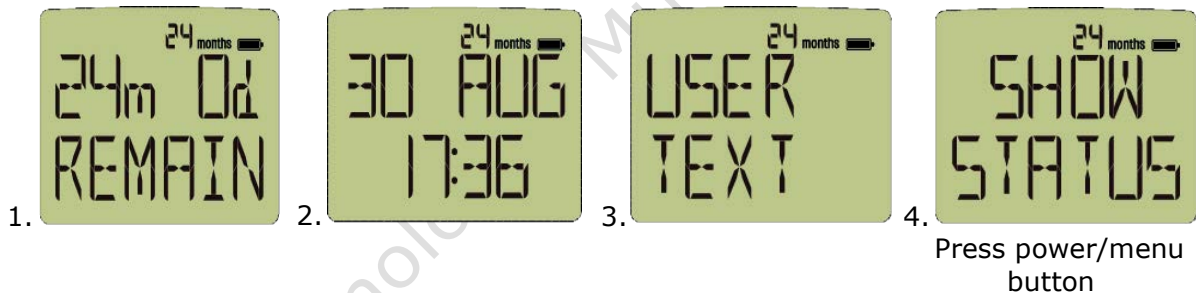
The next step depends on the following situations:

- **When a bump interval has been programmed into the detector and a bump test is due**, the current bump test status will show: **"L. BUMP ____"** (the date of the last bump test) followed by **"BUMP DUE"**. Audible, visual & vibrating prompting to apply gas will automatically start. The display will alternate between **"BUMP DUE"** and **"APPLY GAS"**. Snap the MGC-S Calibration Cap (provided with the detector) into place over the sensor ports. Apply gas to the detector at a flow rate of 0.5 LPM and do not disturb while test is being performed. Once all of the sensors have been tested, the detector will go into alarm. Remove the MGC-S Calibration Cap and the detector will return to normal operation after a short period of time. The bump due date will be automatically reset. The bump test will be recorded in the Bump Log.

- **When a bump interval has been programmed into the detector, but a bump test is not yet due**, the current bump test status will show: **"L. BUMP____"** (the date of the last bump test) followed by **"BUMP XXXd."** (the number of days until the next scheduled bump test is due). Quickly press the power/menu button while the display shows **"BUMP XXXd."** to force a manual bump test. Audible, visual & vibrating prompting to apply gas will start. The display will alternate between "**BUMP DUE**" and **"APPLY GAS"**. Snap the MGC-S Calibration Cap (provided with the detector) into place over the sensor ports. Apply gas to the detector at a flow rate of 0.5 LPM and do not disturb while test is being performed. Once all of the sensors have been tested, the detector will go into alarm. Remove the MGC-S Calibration Cap and the detector will return to normal operation after a short period of time. The bump due date will be automatically reset based on the new bump date. The bump test will be recorded in the Bump Log.
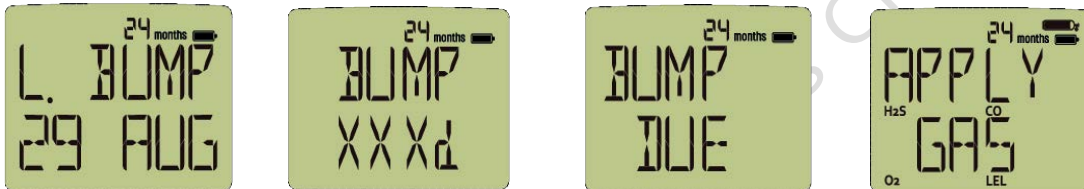
Press power/menu

button

- **When a bump test interval has not been programmed into the detector**, the current bump test status will show: **"L. BUMP____"** (the date of the last bump test). Quickly press the power/menu button while the display shows **"L. BUMP____"** to force a manual bump test. Audible, visual & vibrating prompting to apply gas will start. The display will alternate between **"BUMP XXXd."** and **"APPLY GAS"**. Snap the MGC-S Calibration Cap (provided with the detector) into place over the sensor ports. Apply gas to the detector at a flow rate of 0.5 LPM and do not disturb while test is being performed. Once all of the sensors have been tested, the detector will go into alarm. Remove the MGC-S Calibration Cap and the detector will return to normal operation after a short period of time. The bump test will be recorded in the Bump Log.
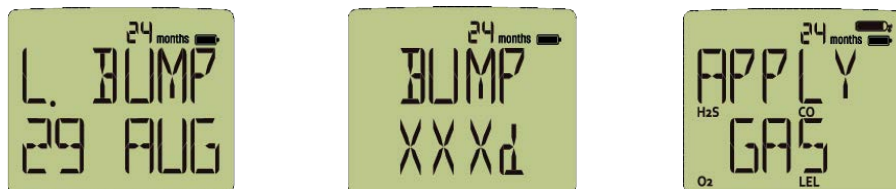
Press power/menu

button

- **When a bump test has failed**, the current bump test status will show: **"L. BUMP FAILED"** (indicating that the last bump test had failed). Audible, visual & vibrating prompting to apply gas will automatically start. The display will alternate between **"BUMP DUE"** and **"APPLY GAS"**. Snap the MGC-S Calibration Cap (provided with the detector) into place over the sensor ports. Apply gas to the detector at a flow rate of 0.5 LPM and do not disturb while test is being performed. Once all of the sensors have been tested, the detector will go into alarm. Remove the MGC-S Calibration Cap and the detector will return to normal operation after a short period of time. The bump test will be recorded in the Bump Log.
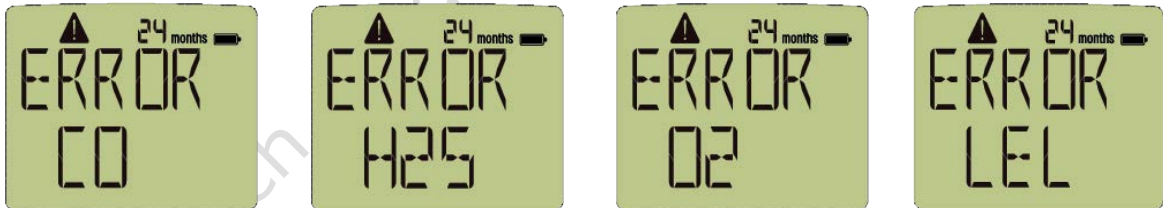
If a sensor fails the bump test, display will show **"ERROR"** and designate which sensor (CO, H2S, O2 or LEL) did not pass. The failed sensor will be disabled and will need to be replaced (see **"ERROR"** in **Failures/FAQ's** section).

During a manual bump test, the audible, visual & vibrating prompting to apply gas will continue for approximately two minutes. If gas is not applied within the two minutes, then the bump test will automatically fail. The prompts will cease, the detector will return to normal operation, but the display will continually flash **"BUMP DUE"** until the detector has been successfully bump tested. Please note, to abort a bump test at any time, press the power/menu button once and the detector will return to normal operation.

Note - Users may simply apply gas to the detector at any time during normal operation to run a bump test without going through the steps above. Be aware, this will not be recognized by the detector as a Manual Bump Test therefore it will be recorded into the Event Log as an Event, not into the Bump Log as a Bump Test.

Calibration

The detector can be configured to keep track of regular calibration intervals in a Calibration Log. The interval can be set using the GCT IR-Link software. When a calibration comes due, or if the last calibration has failed, then the detector's display will continually flash **"CAL DUE"** until the detector has been successfully calibrated. Performing a calibration that will be recorded in the Calibration Log can be done either automatically: insert the detector into the MGC-S Dock or MGC-S Wall Mount Dock, or manually: apply gas according to the **Manual Calibration Instructions** described below.

Manual Calibration Instructions

To enter the **Manual Calibration** mode, continuously hold down the power/menu button. Release the button after the "**AUTO ZERO"** message appears. The detector will first automatically zero the sensors at the current baseline reading, then the "**APPLY GAS**" prompt will appear. Display will show:
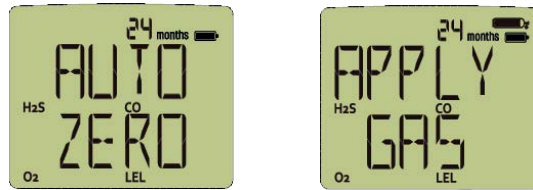
Once the screen displays "**APPLY GAS**", snap the MGC-S Calibration Cap (provided with the detector) into place over the sensor ports. Apply gas to the detector at a flow rate of 0.5 LPM and do not disturb while calibration is being performed. Sensor readings will be displayed as the gas is detected and as the detector adjusts the calibration parameters. Once calibration is complete, the detector will display the next calibration date before returning to normal (alarming) operation. If a sensor fails to calibrate, the detector will display "**ERROR**" - an error message for the failed sensor. Check your gas connections and concentration before attempting a second calibration. If a sensor fails to calibrate after a second attempt, contact GCT for assistance.

Auto Zeroing

To Auto Zero the detector, enter **Manual Calibration** mode as described above. Once the screen displays **"APPLY GAS"**, briefly press the power/menu button. The screen will then display **"CAL ABORT"** followed by the number of days remaining before the next set calibration date. The detector has been successfully auto zeroed and returns to normal operation.

⚠ DO NOT auto zero the detector in a combustible atmosphere.

⚠ DO NOT auto zero in temperatures above or below the specified range of 0°C to 40°C.

Battery

This detector is designed so that the battery won't need charging or replacing during the life of the detector.

⚠ DO NOT substitute any other battery type than specified and supplied by GCT.

Storage

Store the detector in a safe, dry place between 32°F and 77°F (0°C - 25°C).

⚠ Review the warranty period and the "**Activate before…**" date that is printed on the product box label.

Detector Records (Logs)

During operation, the detector automatically records all usage activity. These records can be downloaded from the detector using the GCT IR Link, MGC-S Dock or MGC-S Wall Mount Dock.

The Event, Bump and Calibration Logs are always downloaded. Partial data logs may be downloaded in order to reduce the transfer time. Partial data logs contain approximately 1 week of data. New data log downloads will only contain the data since the last download. Full log downloads contain the entire data log, typically at least 2 months' worth of data.

Event Log

The detector stores the last 25 alarm events. These are organized by first in, first out (FIFO) so the 26th event will replace the first event and so on. The detector records the specific alarm conditions for each event as follows:

- Date and time at the start of the event
- Duration of the alarm condition
- Each sensor's peak alarm status and reading

Bump Log

The detector stores the last 25 bump tests. These are organized by first in, first out (FIFO) so the 26th bump test will replace the first bump test and so on. Bump tests are differentiated from normal events when the alarm condition occurs inside of an MGC-S Dock or MGC-S Wall Mount Dock, or when the detector is manually bump tested according to the **Bump Testing** section. The detector records the bump status for each test as follows:

- Date and time of bump test
- If the bump test was performed manually or with the MGC-S Dock/Wall Mount Dock
- Each sensor's peak alarm status and reading
- The result of each sensor's bump test

Calibration Log

The detector records the last 25 calibration attempts. These are organized by first in, first out (FIFO) so the 26th calibration will replace the first calibration and so on. Each calibration attempt will be recorded as follows:

- Date and time of calibration
- If the calibration was performed manually or with the MGC-S Dock/Wall Mount Dock
- Each sensor's gas concentration calibrated to
- Each sensor's calibration success status

Data Logs

The detector records its current operational status every second. The logging interval cannot be adjusted, but the detector compresses the data to reduce the storage and transfer times of redundant records. The typical logging capacity is at least 2 months of data. The following items are recorded into the log:

- Date and time
- Sensor readings and status conditions
- All user and sensor options
- Events (i.e. low alarm, high alarm)

Accessories and Replacement Parts

- **MGC-S Dock** (P/N: MGC-S-DOCK) - Portable, chargeable all-in-one docking station in durable Pelican case for automated 4-detector simultaneous bump testing, calibrating, record keeping and programming - Also available in High Pressure version

- **MGC-S Wall Mount Dock** (P/N: MGC-S-WMDOCK) - Chargeable all-in-one docking station for automated 4-detector simultaneous bump testing, calibrating, record keeping and programming - Also available in High Pressure version

- **GCT IR Link** (P/N: GCT-IR-LINK) – Infrared communications device and USB cable used for communications between detector and computer to easily make firmware updates, adjust detector settings and record data
  - **Replacement GCT IR Link USB Cable** (P/N: IR-C)

- **MGC-S External Dust Filter Kit** (P/N: MGC-S-XFILTER-KIT) - MGC-S External dust filter cap plus 5 filters
  - **Replacement Filter for External Dust Filter - Pack of 10** (P/N: MGC-S-XFILTER-10)

- **MGC-S Confined Space Kit** (P/N: MGC-S-CSK) **-** Hard-sided Carrying Case with Foam Insert, 1 ft. Sampling Probe, Air Stone Particulate Filter, MGC-S Calibration Cap, 10 ft. Sampling Hose and 3 ft. Calibration/Test Hose with Quick Connect, Hand Aspirator Pump Assembly, 0.5Lpm regulator and GCT IR Link
  - **MGC-S Confined Space Kit w/Gas** (P/N: MGC-S-CSK-GAS) MGC-S Confined Space Kit plus 58L Quad Gas (25 ppm H_2S, 100 ppm CO, 18% O_2 and 50% LEL)
  - **Replacement Air Stone Particulate Filter - Pack of 3** (P/N: MGC-PF)

- **MGC-S Hand Aspirator Kit** (P/N: MGC-S-HAK) - 1 ft. Sampling Probe, Air Stone Particulate Filter, MGC-S Calibration Cap, 10 ft. Sampling Hose and 3 ft. Calibration/Test Hose connected to Hand Aspirator Pump Assembly

- **Sampling Probe** (P/N: MGC-PROBE-1) - 1 ft. Remote Sampling Probe
  - **Replacement Filters & Gaskets for Sampling Probe** (P/N: MGC-PROBE-RF)
  - **Replacement In-line Water Trap Filter for Sampling Probe** (P/N: MGC-WT)

- **Calibration Gas -** 25 ppm H_2S, 100 ppm CO, 18% O_2 and 50% LEL (2.5% vol. Methane)
  - **58 L Quad Gas Cylinder** (P/N: MGC-Q-58)
  - **116 L Quad Gas Cylinder** (P/N: MGC-Q-116)

- **Calibration Accessories:**
  - **Calibration/Test Hose** (MGC-CALHOSE3) – 3 ft. Long 1/8" ID tubing
  - **Manual Regulator** (P/N: SGC-REG) –Regulator for manually bump testing or calibrating
  - **MGC-S Calibration Cap** (P/N: MGC-S-CALCAP) – Replacement Calibration Cap
  - **Sampling Hose** (P/N: MGC-SAMPHOSE) – 1/8" ID tubing sold by the foot

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- **Replacement Sensors:**
  - o **H₂S & CO Dual-Tox Sensor** (P/N: MGC-SE-4DT)
  - o **LEL Sensor - Infrared** (P/N: MGC-S-LEL)
  - o **O₂ Sensor** (P/N: MGC-SE-O2)

- **Replacement Filters:**
  - o **Filter - Pack of 10** (P/N: MGC-S-FILTER-10)
  - o **Filter - Pack of 50** (P/N: MGC-S-FILTER-50)

- **Replacement Detector Components -** Various authorized replacement/spare parts for Multi Gas Clip Simple detectors are available

See the GCT website, www.gascliptech.com, for further details or contact GCT for pricing and availability.

Failures/FAQ's

- **"Err"** - If "**Err**" is displaying in place of a particular sensor's Gas Reading, this sensor has failed and is therefore disabled. Contact GCT for either warranty replacement or replacement sensor(s).

- **"BUMP DUE"** - If the detector is displaying "**BUMP DUE**", the detector is either due for a bump test because of a scheduled test or has failed its last bump test. Refer to the **Bump Testing** section for more details.

- **"CAL DUE"** - If the detector is displaying "**CAL DUE**", the detector is due for a calibration because of a scheduled interval. Refer to the **Calibration** section for more details.

- **"LOW BAT"** - If the battery is too low, the detector will display "LOW BAT" and then turn off. This warning will only display at the detector's end of life.

Detector Specifications

Size	4.75 H x 2.75 W x 1.25 D in. (120.65 x 69.85 x 31.75 mm.)				
Weight	7.675 oz. (220.2 g)				
Temperature	-40˚F to +122˚F (-40˚C to +50˚C)				
Humidity	5% to 95% RH (non-condensing)				
Battery Life	730 days continuous	based on an average of 1.5 minutes/day of alarm condition			
Alarms	Visual, Vibrating, Audible (minimum 95dB) Low, High, STEL, TWA and OL (Over Limit)				
LEDs	4 Red alarm bar LEDs Yellow backlight (activated on button press) Red backlight (activated on alarm condition) Yellow Maintenance Notification LED				
Display	Alphanumeric Liquid Crystal Display (LCD)				
Logs	25 Bump Tests 25 Events 25 Calibrations Continuous 1-second data logging (typical capacity > 2 months)				
Tests	Full function self-test upon activation Sensors, battery and circuitry tests run continuously				
Ingress Protection	IP 68				
Warranty	Full 2 years				
Gases	**Gas**	**Range**	**Resolution**	**Accuracy***	**T₉₀***
	H_2S	0 – 100 ppm	0.1	<2 ppm	<30s
	CO	0 – 500 ppm	1	<5 ppm	<30s
	Combustible	0 – 100% LEL	0.1	<5% LEL	<30s
	O_2	0 – 30% vol.	0.1	< 0.7% vol.	<15s
Sensor Type	H_2S, CO, O_2: Single plug-in electrochemical cell Combustible: Soldered infrared (IR)				
User Options	User Message, Language, Low Alarm, High Alarm, STEL Alarm, TWA Alarm, TWA Method, TWA Interval, STEL Interval, SAFE, Maintenance Notification, Self-test Lock, Dock Lock, Sensor Enable/Disable, Calibration Interval, Bump Interval, Calibration Gas, %-by-volume, Latching Alarms				

Approvals	**CSA:** Class I, Division 1, Group A, B, C, and D
	    Class I, Zone 0, A/Ex ia IIC T4 Ga
	    C22.2 No. 152-M1984
	    ANSI/ISA S12.13
	
	ATEX: SIRA 16ATEX2288X
	    CE 0518 ⟨Ex⟩ II 1 G Ex ia IIC T4 Ga
	    (-40°C ≤ Ta ≤ +50°C)
	    EN 60079-0:2012/A11:2013
	    EN 60079-11:2012
	
	IECEx: CSA 16.0038X
	    Ex ia IIC T4 Ga
	    IEC 60079-0:2011
	    IEC 60079-11:2011				

*Sensor performance is dependent on many factors, including temperature, humidity, sensor age, filter cleanliness, gas delivery, and calibration accuracy. Typical performance will be better than the given limits under most circumstances.

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Contact Information

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Limited Warranty

Gas Clip Technologies ("GCT") warrants this product to be free from defects in material and workmanship under normal use and service for a period of two years beginning upon the date of activation for all Multi Gas Clip products. Date of activation allowance is limited to the "Activate before…" date provided on the shipment box label. This warranty extends only to the sale of new and unused products to the original buyer. GCT's warranty obligation is limited, at GCT's option, to refund of the purchase price, repair, or replacement of a defective product that is returned to a GCT authorized service center within the warranty period. In no event shall GCT's liability hereunder exceed the purchase price actually paid by the buyer for the product. This warranty does not include the following: (1) Fuses, disposable batteries, or routine replacement of parts due to the normal wear and tear of the product arising from use. (2) Any product which, in GCT's opinion, has been misused, altered, neglected or damaged by accident or abnormal conditions of operation, handling, or use. (3) Any damage or defects attributable to repair of the product by any person other than the authorized dealer, or installation of unapproved parts on the product. The obligations set forth in this warranty are conditional on the following: (1) Proper storage, installation, calibration, use, maintenance, and compliance with the User's Manual instructions and any other applicable recommendations of GCT. (2) The buyer promptly notifying GCT of any defect and, if required, promptly making the product available for correction. No goods shall be returned to GCT until receipt by the buyer of instructions from GCT. (3) The right of GCT to require that the buyer provide proof 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, expressed or implied, including, but not limited to, any implied warranty or merchantability or fitness for a particular purpose. GCT 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 on any other theory. Some countries or states do not allow limitation of the term of an applied 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 provision.