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uni VD130 USB C Docking Station

gasclip technologies UM-MGC-P Portable Gas Detectors User Manual

Contents

gasclip technologies UM-MGC-P Portable Gas Detectors

Specifications

- **Detector Components:** Power Button, Audible Port, Display, Alarm Bar LEDs, Maintenance LEDs, IR Communication Window, Gas Inlet Filter Window, Certification Label, Model and Serial Number, Gas Exhaust, Charging Port, Alligator Clip with Safety Ring
- **Display Components:** Alarm Condition, Pump Status, Calibration/Test Mode, Battery Charge Level, Gas Readings, Gas Identifiers

Product Usage Instructions

Read First Before Operation
The Multi Gas Clip Pump by Gas Clip Technologies (GCT) is a personal safety device designed to detect the presence of specific toxic gases such as carbon monoxide (CO), hydrogen sulfide (H2S), oxygen (O2), and combustible gases/lower explosive limit (LEL). Before operating the device, ensure that you have received proper training on its use and know the appropriate actions to take in the event of an alarm condition.

Detector Components
The Multi Gas Clip Pump consists of the following components:

1. Power Button
2. Audible Port
3. Display
4. Alarm Bar LEDs
5. Maintenance LEDs
6. IR Communication Window
7. Gas Inlet Filter Window

8. Certification Label

9. Model and Serial Number

10. Gas Exhaust

11. Charging Port

12. Alligator Clip with Safety Ring

Display Components
The display of the Multi Gas Clip Pump includes the following components:

1. Alarm Condition

2. Pump Status

3. Calibration/Test Mode

4. Battery Charge Level

5. Gas Readings

6. Gas Identifiers

It is important to familiarize yourself with the icons displayed on the screen in both non-alarm and alarm states. If any icons are missing or the display cannot be clearly read, discontinue use and contact GCT.

Manual Bump Test Instructions
To perform a manual bump test on the Multi Gas Clip Pump, follow these steps:

1. Ensure the device is properly charged and turned on.

2. Place the device in a known gas concentration environment.

3. Press and hold the Power Button for 3 seconds to initiate the bump test.

4. Observe the display for any alarm conditions or errors.

5. If no alarms or errors are detected, the bump test is successful.

Calibration
To calibrate the Multi Gas Clip Pump, follow these steps:

1. Ensure the device is properly charged and turned on.

2. Connect the device to a compatible calibration gas source.

3. Enter the calibration mode by following the instructions provided by GCT.

4. Follow the on-screen prompts to perform the calibration.

5. Once the calibration is complete, verify that the device is functioning correctly by performing a manual bump test.

WARNING STATEMENTS

- Do not substitute components as this may interfere with the intrinsic safety of the device.
- DO NOT substitute any other battery type than specified and supplied by Gas Clip Technologies.
- Only use Gas Clip Technologies chargers and parts in the detector. Unapproved 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 charge the instrument in a hazardous location.
- 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 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.
- DO NOT charge the instrument in temperatures above or below the specified range of 0°C to 40°C
- Keep new and used batteries away from children
- DO NOT expose the detector to sensor poisons such as, but not limited to: alcohol, citrus-based cleaners, silicones, lead compounds (e.g. tetraethyl lead), sulfur compounds, phosphorus, halogenated hydrocarbons and aerosols.
- Exposure to poisons may impair the accuracy and/or response time of the detector. This applies to pellistor version only.
- **Caution:** Before each day's usage, sensitivity must be tested on a known concentration of methane equivalent to 25-50% of full scale concentration. Accuracy must be within 0-20% of actual methane concentration. Accuracy may be corrected by calibrating the detector.
- If suspected sensor poisoning has occurred, recheck the detector (both calibrate and bump test).
- 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.
- Any rapid upscale reading followed by a declining or erratic reading may indicate a gas concentration beyond upper scale limit which may be hazardous.
- 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.

READ FIRST BEFORE OPERATION
Gas Clip Technologies (GCT) Multi Gas Clip Pump (MGC Pump): detectors are personal safety devices designed to detect the presence of specific toxic gases: carbon monoxide (CO), hydrogen sulfide (H2S), oxygen (O2) and combustible gases/lower explosive limit (LEL). Before operation, ensure you have been properly trained on the use of the equipment and appropriate actions to take in the event of an alarm condition.
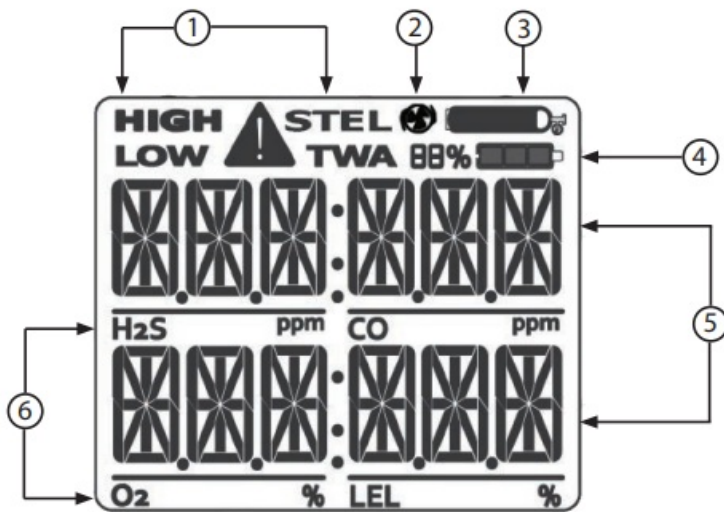
DETECTOR COMPONENTS

Entry	Description
1	Power Button
2	Audible Port
3	Display
4	Alarm Bar LEDs
5	Maintenance LEDs
6	IR Communication Window
7	Gas Inlet
8	Filter Window
9	Certification Label
10	Model and Serial Number
11	Gas Exhaust
12	Charging Port
13	Alligator Clip with Safety Ring

DISPLAY COMPONENTS

Display Layout

Entry	Description
1	Alarm Condition
2	Pump Status
3	Calibration/Test Mode
4	Battery Charge Level
5	Gas Readings
6	Gas Identifiers

Display Details

- When a gas is reading at, or above, its alarm thresholds, the gas identifier icon will flash and the associated alarm condition icon will display.
- The pump status icon will be turned on whenever the pump is operating.
- During a pump alarm (pump blocked), the pump status icon will flash with the warning icon.
- During calibration or a bump test, the calibration bottle will be displayed when it is time to apply gas.
- The battery is displayed in 3 bars, as well as a percentage. The percentage calculation is approximate and can be used to provide a rough estimation of the time remaining.

Warning: Users must familiarize themselves with the icons in both non-alarm and alarm states.
Warning: If the display is missing icons or cannot be clearly read, discontinue use and contact GCT.

ALARM

Default Alarms
Each detector comes preprogrammed with the factory default settings below for Low, High, Time Weighted Average (TWA) and Short Term Exposure Limit (STEL) alarms.

Sensor	Low	High	TWA	STEL
H2S	10 ppm	15 ppm	10 ppm	15 ppm
CO	35 ppm	200 ppm	35 ppm	35 ppm
O2	19.5%	23.5%		
LEL	10%	20%		

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
Pump Blocked	Fast beep	Fast vibration	Fast LED flash
Sensor Error	Fast beep	Fast vibration	Fast LED flash
Low Battery	20 minutes remaining: single beep/flash and battery icon on 10 minutes remaining: single beep/flash and battery icon flashing 5 minutes remaining: continuous beep/flash every 5 seconds Expired: 5 Long beeps/flashes and then OFF is displayed		

BASIC OPERATION

Button Usage
Operation of the detector is driven by a single button located on the front of the detector as described below:

- Turn On/Off
- Menu Navigation (Status and Options)
- Latched and Pump Alarm acknowledgement
- Backlight activation
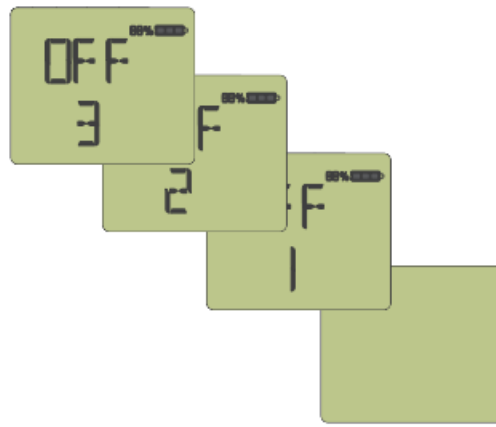- Calibration

Turning On the Detector
To activate the detector, press and hold down the button. If the battery is too low for activation the detector will display "LOW BAT" and then turn off again. Once activated, the detector will begin to display gas readings immediately. Each sensor will show a chasing "O" for the sensor reading while it is stabilizing and being self-tested.

Once all sensors have completed the warm up sequence the detector is ready t o detect all gases.

Turning Off the Detector
Press and hold the button to start the shutdown sequence. The LCD will display OFF along with a countdown. Release the button after the countdown and the detector will turn off.

DETECTOR RECORDS (LOGS)
During operation, the detector records all usage activity. These records can be downloaded from the detector via the IR Link software and an IR Link or from the MGC Pump Dock.
The Event, Bump and Calibration Logs are always downloaded. The user may also choose to download different amounts of the data log to reduce the transfer time. Partial data logs contain approximately 1 weeks' worth of data. New data log downloads will only contain the data since the last download. Full log downloads will download 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 alarm conditions for each event:

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

Bump 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. Bump tests are differentiated from normal events when the alarm condition occurs inside of the MGC Pump Dock, or when the detector is manually bump tested according to the Manual Bump Test Instructions. The detector records the bump status for each test:

- Date and time of bump test
- Whether the test was performed manually or in an MGC Pump Dock
- Each sensor's peak alarm status and reading
- The result of each sensor's bump test
- If the detector is displaying "BUMP DUE", the detector is either due for a bump test or has failed its last 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:

- Date and time of calibration
- Each sensor's gas calibration concentration
- Each sensor's calibration success status
- If the detector is displaying "CAL DUE", the detector is either due for a calibration because of a scheduled interval

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. turn on or off)

How to Retrieve Data Logs Using the GCT IR Link

- You must have Microsoft Excel to open Data and/or Event Logs
- Computer System Requirements: Available for Windows© based PCs (Vista, 7, 8.x, 10)
- Browser requirements: Google Chrome, Firefox, Opera or Edge

Set the detector in front of the GCT IR Link with the GCT IR Link Communication Window and MGC Pump Commu-nication Window lined up approximately 2-3 inches apart.

1. Open the GCT IR Link Software (downloaded for free from www.gascliptech.com under Resources tab).
2. Click on Download Logs icon at the top left corner.
3. Select Destination Folder (wherever you want to store the logs on your computer).
4. Select what kind of logs you want to download:
    1. **a.** Event Logs Only
    2. **b.** Events & Partial Data Log (last week of data)
    3. **c.** Events & New Data Logs Only (All data logs from last time you pulled the logs to current)
    4. **d.** Full Logs (approximately 2 months)
5. If a check mark is in the box above where you select what logs you want to download, the logs will automati-cally open in Microsoft Excel once it's downloaded.

DETECTOR OPTIONS/MENUS

To access the user menus, press the button two separate times in quick succession (double-tap). The detector will display:

- Current date/time
- User-programmed text message
- Status menu prompt
- Options menu prompt

If the Status Menu is accessed by pressing the button during the prompt, the detector will display:

- Last calibration date
- When calibration is due
- Last bump test date
- When bump test is due
- Current Time Weighted Average (TWA) readings
- Current Short Term Exposure Limit (STEL) readings
- Peak sensor readings
- Prompt to clear the TWA, STEL and Peak sensor readings (if the button is pressed)

If the Options Menu is accessed by pressing the button during the prompt, the detector will display:

- The detector's firmware version
- The TWA alarm limits
- The STEL alarm limits
- The LOW alarm limits
- The HIGH alarm limits

Adjustable Options
The detector's options are configured using the IR Link and the IR Link software.

- **User Message-** An optional, user-programmable text message can be used to show company branding, a detector identifier or any other pertinent information. The detector will display this message every time the button is double-tapped.
- **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-** "SAFE" will be displayed if there are no gas or detector alerts.
- **Self-Test Lock-** When a sensor self-test fails, the detector shows "ERR" on the display and goes into high alarm. The self-test lock option specifies whether a button press can silence the alarm.
- **Maintenance Notification**– If maintenance notification is enabled, the detector will periodically flash the maintenance LED. Otherwise, if the option is disabled, the detector will only show the maintenance text on the display.
  Pump Test- Will require the pump to be tested (block and unblock) on startup.
  Dock Lock- Dock Lock prevents calibrations and bump tests without the use of the IR Link or the MGC Pump Dock.
  Latching Alarms- Latched alarms will hold the detector and its display in its peak alarm condition until the button is pressed.
  Auto-Zero- The detector can optionally zero the sensors with every power-up.
  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 time frame over which the long-term average is calculated. Default is 8 hours.

STEL Interval- The STEL interval defines the time frame 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 from 1 to 365 days. Default is N/A (disabled).
- **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 from 1 to 365 days (default is 365 days) except for the pellistor sensor which can be adjusted from 1-180 days (default is 180 days).
- **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 H2S, 100ppm CO, 18% O2 and 50%LEL (2.5%vol CH4).
- **Language:** The detector will display all of its text prompts in any of the following languages: English, German, French, Spanish, Italian or Portuguese.
  Note: OL, Err and sensor icons remain the same for all languages.

Activity LED Period – This option periodically flashes a single LED on the detector at a rate specified by the user to indicate that the detector is on. The time between flashes can be set and adjusted through the GCT IR Link software or GCT Manager software. The minimum time between flashes is 5 seconds, maximum is 120 seconds. To enable this function using the GCT Manager software, click the checkbox next to Activity LED Period then set the period to the number of seconds desired between flashes. To disable this function, uncheck the checkbox next to Activity LED Period and set the period value to "Off".

NOTE: Simply unchecking the checkbox next to Activity LED Period without setting the period to "Off" is not sufficient to disable this function on the detector. To enable/disable this function using the GCT IR Link software, the procedure is the same without the checkbox. Last, click the "Write" button at the bottom on the GCT IR Link software or GCT Manager software for any changes to take effect on the detector.

Main Menu

- **Date/Time-** Set every time the detector is communicated with via IR Link or MGC Pump Dock.
- **User Message-** If the message is empty, the detector will skip ahead. If the startup message does not fit on one screen, it will scroll right-to-left twice.
- **Sub-Menu Prompts-** Pressing the button during a sub-menu prompt will cause the detector to show more information. If the button is not pressed, the detector will immediately return to normal operation.

Status Menu

- **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 next bump test is due, will be displayed. If a bump 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. Each time the detector is turned off, these values will be reset.
- **Clear Peak Levels-** Pressing the button during the "CLEAR ALL" prompt will cause the TWA, STEL and peak readings to be cleared.
  Note: This does not remove the information from the internal memory logs of the detector.

Options Menu

- **Firmware Version-** The current firmware version on the detector will be displayed.
- **Alarm Units**– The current alarm limits for TWA, STEL, LOW and HIGH will be displayed in sequence.

DETECTOR MAINTENANCE

Applying Gas from a Gas Cylinder
The detector contains an internal pump that is continually drawing in gas through the gas inlet. The best way to apply gas from a cylinder is through the use of a demand flow (vacuum-actuated) regulator. This type of regulator will supply the exact amount of gas that the detector is drawing with the pump. Alternatively, a pressure-based regulator rated for at least 300 ml/min can be used. In that case, a T (or Y) fitting should be placed between the regulator and the detector to vent the excess gas that exceeds the flow rate being sampled by the detector's pump.

Battery
The battery is displayed as both a percentage and a 3-bar battery icon. The percentage calculation is approximate and can be used to provide a rough estimation of the time remaining.
When the detector determines that only 20 minutes of run time remains, it will beep, flash and display "LOW BAT" on the screen. This will repeat with 10 minutes remaining, and then continuously for the last 5 minutes of run time. When the battery has expired, the detector will give 5 long beeps and flashes, display "OFF" and then shut down.

To charge the detector, either plug it into an AC outlet using the provided charging adapter. You may also charge the MGC Pump using an MGC Vehicle Charger or MGC Multi Charger. Both are authorized GCT MGC Pump optional accessories. The detector will cycle the battery icons in a charging fashion until the battery is fully charged. It is advisable to turn the detector off before charging.

- DO NOT charge the instrument in a combustible atmosphere.
- DO NOT charge the instrument in temperatures above or below the specified range of 0°C to 40°C.
- DO NOT substitute any other battery type than specified and supplied by GCT.
- DO NOT use any charger other than that supplied or offered by GCT.

Storage
Store the detector in a safe, dry place between 32°F and 77°F (0°C – 25°C). For longer storage, the detector battery should be discharged to about 40%. After storage, charge the battery and verify the detector calibration before use.

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

Bump Testing
The detector can be configured to keep track of regular bump testing intervals. When the detector has exceeded the bump interval, it will display "BUMP DUE" until it has been successfully bump tested. To bump test the detector, either insert the detector into the MGC Pump Dock, or manually apply gas from the bump test screen described below.

Manual Bump Test Instructions
To activate the manual bump test press the button twice rapidly to enter the user menu. When the screen displays "Show Status" press the button once more.

The detector will flash between "BUMP DUE" and "APPLY GAS". Apply gas to the detector's gas inlet. Once all sensors have gone into alarm, the detector will return to normal operation (in alarm) and the bump due date will be reset.
If a bump test interval has not been programmed into the detector, users may simply apply gas to the detector during normal operation. However this will not be recognized as a bump test by the detector and therefore it will be recorded into the event log as an event.

Calibration
The detector can be configured to keep track of regular calibration intervals. When the detector has exceeded the calibration interval, it will display "CAL DUE" until it has been successfully calibrated. To calibrate the detector, either insert the detector into the MGC Pump Dock, or manually calibrate the detector as described below.

Manual Calibration Instructions
To enter calibration mode, manually press and hold the button down as in the turn off sequence. Continue holding the button down until the CAL screen appears and finishes the countdown.
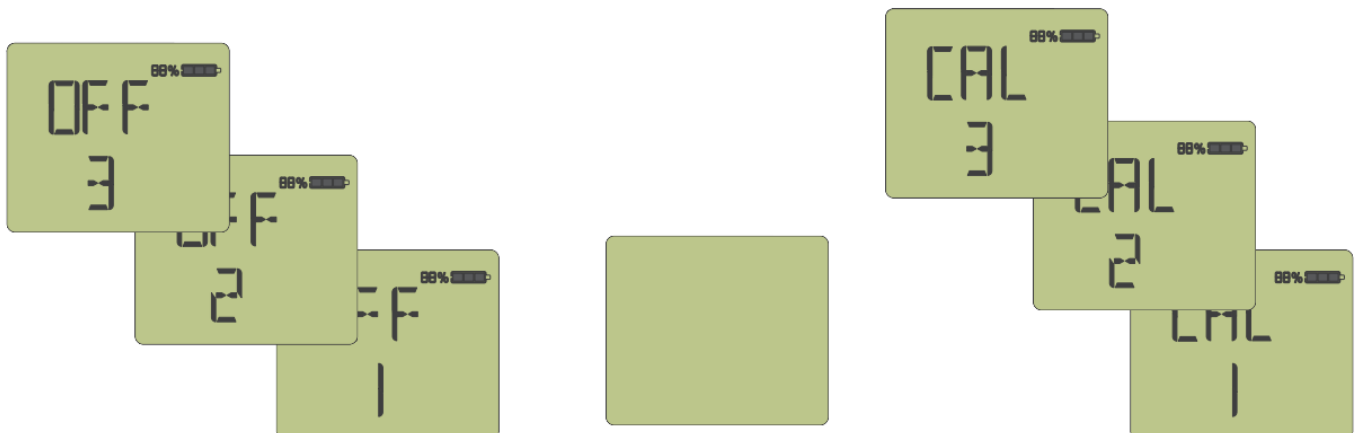

The detector will first automatically zero the sensors at the current baseline reading, then the detector will prompt to "APPLY GAS." Once the screen displays "APPLY GAS", apply gas to the detector's gas inlet. As the detector detects gas, the sensor readings will be displayed and adjusted throughout the calibration.

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 an error 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 either warranty replacement or

Filter Replacement
The detector includes both a hydrophobic membrane filter and a particulate filter to keep the internal pump and sensor areas free of water and debris. If these filters become blocked, then the detector will be unable to continue sampling and the pump will enter into a pump blocked alarm. Looking at the filter window will typically indicate a clean (white) or dirty (dark color) condition.
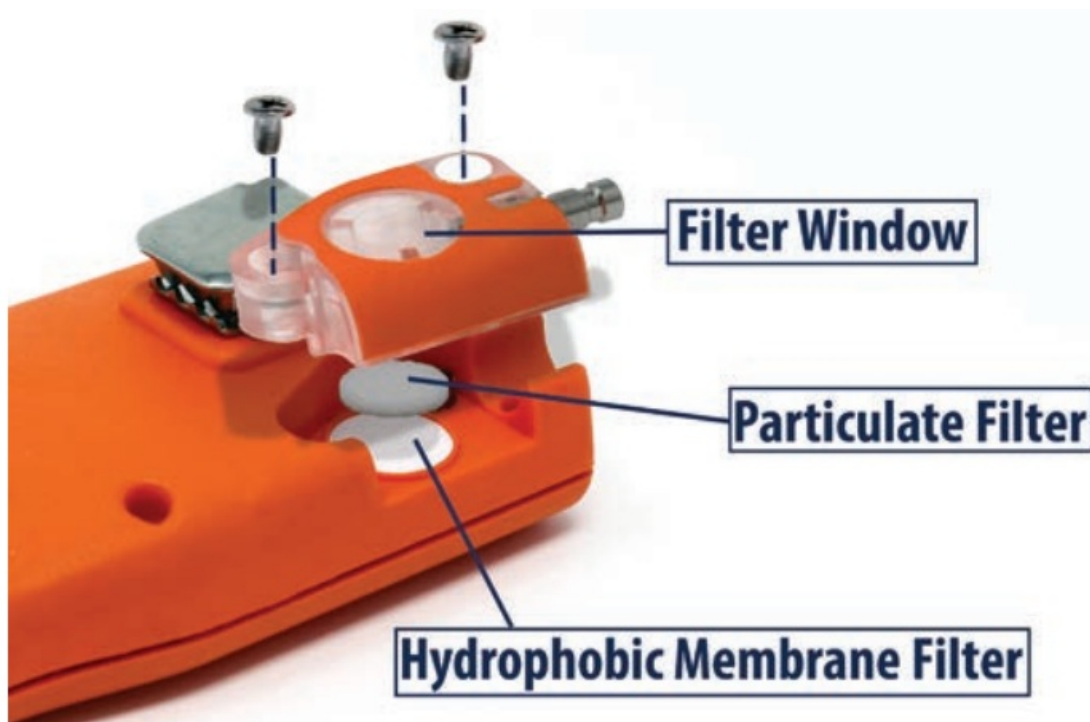
- If the filters require replacement, then remove the gas inlet by loosening the two screws.
- Replace the hydrophobic and/or particulate filters as required, then reassemble to continue operating the detector. replacement sensor(s).

Pump Testing
Anytime that the gas tubing has been changed or reconnected to the detector, the sampling system should be tested by blocking the end of the tube. When the gas flow is blocked, the detector will go into alarm and disable the pump. Press the button to reactivate the pump.

- **Warning:** Perform a blocked flow test before each day's use.
- **Warning:** Perform a blocked flow test any time the sampling system is changed.
- **Warning:** Do not use silicon tubing with the catalytic bead LEL sensor.

- **Warning:** Failure to detect a block may indicate a leak in the sampling system.

ACCESSORIES AND REPLACEMENT PARTS

- **Multi Gas Clip Pump Dock:** (P/N: MGC-DOCK-PUMP) – portable, chargeable all-in-one docking station in a durable Pelican case for automated 4-detector simultaneous bump testing, calibrating, record keeping and programming.
    - Also available in a Hi-Pressure version.
- **Multi Gas Clip Pump Wall Mount Dock:** (P/N: MGC-WMDOCK-PUMP) – same capabilities as an MGC Pump Dock in a metal case that can be wall mounted or stand alone. – Also available in a Hi-Pressure version.
- **GCT IR Link:** (P/N: GCT-IR-LINK) – Infrared communications device and USB cable used for communications be-tween detector and computer to easily make firmware updates, adjust detector settings and record data.
- **Alligator Clip:** (P/N: AL-CLIP) – Metal clip on the back of the detectors that can clip on to clothing or belts
- **6′ Telescoping Probe:** (P/N: MGC-TSPROBE) – Metal probe that extends to 6 foot
- **MGC Pump & Probe Case:** (P/N: MGC-PUMP-TSCASE) – Holster for MGC Pump with side compartment for tele-scoping probe with adjustable velcro straps.
- **MGC Pump Disconnect:** (P/N: MGC-PUMP-QD) – Easy connect metal fitting that connects the gas inlet to the sam-ple line
- **Remote Sampling Probe:** (P/N: MGC-PROBE1) – 1 ft handheld probe
- **MGC Vehicle Charger:** (P/N: MGC-V-CHARGER1) – 12 VDC vehicle charger
- **MGC Multi-Charger:** (P/N: MGC-CHRG-MULTI) – 5 detector cable charger
- **Front Case for MGC Pump:** (P/N: MGC-PUMP-FC) – replacement front cover
- **Back Case for MGC Pump:** (P/N: MGC-PUMP-BC) – replacement back cover
- **Gas Inlet:** (P/N: MGC-PGI) – replacement gas inlet
- **Dual Tox Sensor :** (P/N: MGC-SE-4DT) – CO (Carbon Monoxixde)/H2S (Hydrogen Sulfide) replacement sensor
- **Oxygen Sensor:** (P/N: MGC-SE-O2) – Replacement O2 (Oxygen) sensor
- **LEL Sensor:** (P/N: MGC-SE-LEL-IR or MGC-SE-LEL-P) Replacement Infrared or Pellistor sensor
- **LCD Screen:** (P/N: MGC-P-LCD) – Replacement LCD screen
- **Printed Circuit Board (PCB):** (P/N: MCG-PUMP-PCB) – replacement circuit board
- **Battery:** (P/N: MGC-BAT) – replacement battery
- **Internal Pump Motor:** (P/N: MGC-PUMP-MOTOR) – replacement internal pump motor
- **Replacement Particulate Filters**: (P/N: MGC-PFILTER-10 and MGC-PFILTER-50) – replacement particulate (hard plastic) filters in either a 10 pack or a 50 pack.
- **Replacement Hydrophobic Filters**: (P/N: MGC-HFILTER-10 and MGC-HFILTER-50) – replacement hydrophobic (paper) filters in either a 10 pack or a 50 pack.
- **Available Quad Gas Cylinders:** (P/N: MGC-Q-58 and MGC-Q-116) – 25 ppm H2S, 100 ppm CO, 18% O2 and 50% LEL(2.5% vol Methane) in either a 58L cylinder or a 116L cylinder.

DETECTOR SPECIFICATIONS

Size	5.7 x 3.0 x 1.5 in. (147 x 78 x 38.3 mm)
Weight	12.4 oz. (352 g)

Temperature	-4˚ to 122˚F (-20˚ to +50˚C)	
Humidity	5% to 100% RH (non-condensing)	
Battery Life	IR (infrared) version	52 hours (continuous)
	Pellistor version	12 hours (continuous)
Charge Time	4 to 6 hours	
Alarms	Visual, Vibrating, Audible (minimum 95 dB) Pump, Low, High, STEL, TWA, 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 (> 2 months typical capacity)	
Tests	Full-function self-test upon activation Sensors, battery and circuitry tests run continuously	
Ingress Protection	IP 67	
Warranty	Full 2 years	
Gas Inlet	1/8'' Stainless steel barbed fitting	
Pump Draw	Sample from up to 75 ft. (23 m)	
Sample Delay Time	Less than 1 second per 1 ft. (0.3m) with 1/8 in. ID tubing	
Gases	H2S	0 – 100.0 PPM (0.1 PPM increments)
	CO	0 – 500 PPM (1 PPM increments)
	Combustible (LEL)	0 -100.0% LEL (0.1% increments)
	O2	0 – 30.0% vol. (0.1% increments)
Sensor Type	H_2S, CO, O_2: Single plug-in electrochemical cell Combustible: Plug-in infrared (IR) or pellistor	
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, Pump Test, Sensor Enable, Calibration Interval, Bump Interval, Calibration Gas	

DETECTOR SPECIFICATIONS

Approvals		MGC-IR-PUMP	MGC-P-PUMP
CSA		CSA 14.2696027 Intrinsically Safe/Sécurité Intrinsèque Class I, Division 1, Groups A, B, C and D, T4 Ex ia IIC T4 Ga Class I, Zone 0, AEx ia IIC T4 Ga -20˚≤ Ta ≤ +50˚C; 3.8 Vdc nominal ANSI/ISA 12.13.01-2000 C22.2 No. 152 - M1984 C22.2 No. 0 – M91 C22.2 No. 142-M1987 UL-916 4th Edition C22.2 No. 157 – 92 C22.2 No. 60079-0:11 C22.2 No. 60079-11:14 UL 913, 8th Edition UL 60079-0, 6th Edition UL 60079-11, 6th Edition UL 60079-1-2009, 6th Edition	CSA 14.2696027 Intrinsically Safe/Sécurité Intrinsèque Class I, Division 1, Groups A, B, C and D, T4 Class I, Zone 1, AEx d ia IIC T4 Gb -20˚≤ Ta ≤ +50˚C; 3.8Vdc nominal ANSI/ISA 12.13.01-2000 C22.2 No. 152 - M1984 UL-916 4th Edition UL 913, 8th Edition UL 60079-0, 6th Edition UL 60079-11, 6th Edition UL 60079-1-2009, 6th Edition
IECEx		IECEx CSA 14.0029 Ex ia IIC Ga -20°C ≤ Ta ≤ +50°C IEC 60079-0:2011, Edition: 6.0 IEC 60079-11:2011, Edition: 6.0	IECEx CSA 14.0029 Ex d ia IIC T4 Gb -20°C ≤ Ta ≤ +50°C IEC 60079-0:2011, Edition: 6.0 IEC 60079-1:2007-04, Edition: 6.0 IEC 60079-11:2011, Edition: 6.0
ATEX		Sira 14ATEX2120 Ex II 1 G Ex ia IIC T4 Ga -20°C ≤ Ta ≤ +50°C EN 60079-0:2012/A11 EN 60079-11: 2012 EN 60079-26: 2007	Sira 14ATEX2120 Ex II 2 G Ex d ia IIC T4 Gb -20°C ≤ Ta ≤ +50°C EN 60079-0:2012/A11 EN 60079-11:2012 EN 60079-26:2007 EN 60079-1:2014
UKCA		CSAE 21UKEX2475 Ex II 1 G Ex ia IIC T4 Ga -20°C ≤ Ta ≤ +50°C EN 60079-0:2018 EN 60079-11: 2012	

Please note: the MGC Pump Pellisor (MGC-P-PUMP) has been discontinued.

Note: 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. 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.

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: (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: (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.

QR SCAN

FAQ

- **Q: What gases does the Multi Gas Clip Pump detect?**
    - A: The Multi Gas Clip Pump is capable of detecting carbon monoxide (CO), hydrogen sulfide (H2S), oxygen (O2), and combustible gases/lower explosive limit (LEL).
- **Q: What are the default alarm settings for the Multi Gas Clip Pump?**
    - A: The factory default settings for Low, High, Time Weighted Average (TWA), and Short Term Exposure Limit (STEL) alarms are as follows:

Sensor	Low	High	TWA	STEL
H2S	10 ppm	15 ppm	10 ppm	15 ppm
CO	35 ppm	200 ppm	35 ppm	35 ppm
O2	19.5%	23.5%	–	–
LEL	10%	20%	–	–

- **Q: How do I perform a manual bump test on the Multi Gas Clip Pump?**
    - A: To perform a manual bump test, ensure the device is charged and turned on, place it in a known gas concentration environment, and press and hold the Power Button for 3 seconds to initiate the test. Observe the display for any alarms or errors.
- **Q: How do I calibrate the Multi Gas Clip Pump?**

- A: To calibrate the device, make sure it is charged and turned on, connect it to a compatible calibration gas source, enter the calibration mode according to GCT's instructions, and follow the on-screen prompts to complete the calibration. Verify the device's functionality by performing a manual bump test.

Gas Clip Technologies, Inc.
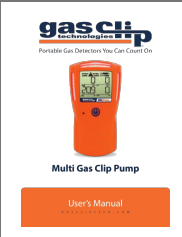305 W. FM 1382, Ste. 540, Cedar Hill, TX 75104 USA
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Contact Us

- **gascliptech.com/contactus.php**
- **www.gascliptech.com**

Documents / Resources

	gasclip technologies UM-MGC-P Portable Gas Detectors [pdf] User Manual UM-MGC-P, UM-MGC-P Portable Gas Detectors, Portable Gas Detectors, Gas Detectors, Detectors

References

- **gct Contact Us | Gas Clip Technologies**
- **gct Home Page | Gas Clip Technologies**
- **User Manual**