




mPower Electronics MP112 Series UNI Lite Disposable Single Gas Detectors User Guide

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mPower Electronics MP112 Series UNI Lite Disposable Single Gas Detectors User Guide



Product Information

Specifications

- Example: UNI LITE MP112 & MP112RT Series
- Battery: Lithium mPower M500-0038-000 (EVE 14335) (3.6 V, 1650mAh, size AA 2/3)
- Manufacturer: mPower Electronics Inc.
- Address: 2910 Scott Blvd. Santa Clara, CA 95054
- Website: www.mpowerinc.com
- email: info@mpowerinc.com
- Part Number: M027-4007-000
- Version: v1.0

Product Use Instructions

User Interface

The UNI user interface includes an LCD display, LEDs, alarm siren, push button, alligator clip and chemical sensor.

Turning on the Unit

To turn on the unit, press and hold the Power Button for 3 seconds until the LCD shows "On." The unit will enter a self-test sequence and then Normal Mode. The unit runs continuously until the remaining life time expires.

MP112 vs. MP112RT demo

The MP112 shows the remaining life starting at 24 months, while the MP112RT shows real-time values for the first 21 months and then switches to the remaining time for the last 90 days.

Configuration Mode Password

In Configuration Mode, the user can configure the unit and set the High and Low Alarm Limits. Default password is 0000.

Configuration Mode Menu

In Setup Mode, the user can perform actions such as zero calibration, interval calibration (MP112RT only), setting alarm limits, and more. Additional features require use of the MP311 CaliCase 4-bay docking station and mPower Suite software.

Exit Setup Mode

To exit Setup Mode, scroll to EXIT? and long press to return to Normal Mode.

Alarm Limits

An alarm is activated when the reading exceeds a set High or Low Alarm limit. To adjust the alarm limit, enter Configuration Mode and go to SET UP? or KEEP IT DOWN?.

Questions

Q: How can I check if the device is working properly before use?

A: It is recommended to test in a gas of known concentration to confirm proper operation before use.

Q: What should I do if the display is damaged?

A: Make sure the display is not damaged or scratched. You can remove the blue protective film if present.

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warning

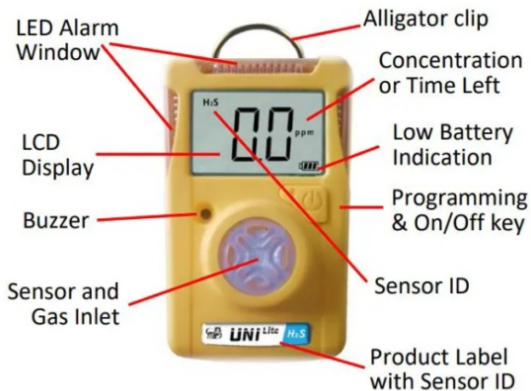
- Never use the controller with the cover removed.
- Remove the controller cover and battery in a known non-hazardous area only.
- Use only mPower lithium battery part M500-0038-000 (EVE 14335) (3.6 V, 1650 mAh, 2/3 AA size).
- This instrument has not been tested in an explosive gas/air atmosphere with an oxygen concentration greater than 21%.
- Substitution of components will impair suitability for intrinsic safety and void warranty.
- It is recommended to perform a rapid test using a gas of known concentration to confirm that the device is working properly before use.
- Before use, make sure that the colorless ESD layer on the display is not damaged or peeled off. (The blue protective film can be removed.)

Read before working

The User's Guide must be read carefully by all persons who are or will be responsible for using, maintaining, or servicing this product. The product will perform as designed only if it is used, maintained, and serviced according to the manufacturer's instructions.

User Interface

The UNI user interface features an LCD display, LEDs, alarm siren, one push button, alligator clip and chemical sensor.



Turning on the Unit

Press and hold the Operation Button () for 3 seconds, until the LCD shows "On" when it enters the self-test sequence, and then enter Normal Mode. Once the unit is turned on, it cannot be turned off and runs continuously until the remaining life time expires.

MP112 vs. MP112RT demo

The MP112 shows the remaining life starting at 24 months, while the MP112RT shows real-time values for the first 21 months and then switches to the remaining time for the last 90 days. Both units activate and display an alarm type if any preset limit is exceeded.

Normal Mode Menu

From Normal Mode:

1. Short press to display Peak reading and long press twice to clear Peak. Or short press again to enter EVT LOG, long press until beep to display latest alarm event A1 then short press repeatedly to cycle through last 10 alarm events. Up to 50 events can be viewed using mPower Suite.
2. Press 2 seconds to start the Daily Alarm Test and cycle through the High and Low Alarm settings, Bump days left and User ID. MP112 also shows Cal's days from the rest of his life.
3. Press 4 seconds to go to Setup Mode.

Configuration Mode Password

The password entry screen will show the first digit flashing. Short press the Key to increase the number, and long press until the beep to move the cursor to the next digit. The default password is 0000. After all four digits are entered, long press to move to "OK" and short press to accept and enter Setup Mode.

Configuration Mode Menu

In Configuration Mode the user can calibrate the unit and set the High and Low Alarm Limits:

- AIR: Zero modificationSPAN adjustment (MP112RT only)SET upper alarm LIMIT
- SET lower alarm LIMIT
- EXIT: Exit Setup Mode

Other functions such as Span adjustment on the MP112, changing the collection units, setting the Cal or Bump due date, and viewing the Event Log must be done using the MP311 CaliCase 4-bay docking station and the mPower Suite software.

Configuration Mode Navigation: Generally, long press the key to enter a menu item and short press to scroll to the next item, add a number, confirm, or move to an item within the menu. Adjust the numeric digits as the password.

Exit Setup Mode

Scroll to “EXIT?” and long press to exit and return to Normal Mode.

Alarm Limits

An alarm is activated when the reading is above the Low or High Alarm limit. To adjust the alarm limit, enter Configuration Mode and scroll to: SET UP? or KEEP IT DOWN?.

- Long press to display the alarm value by flashing the first digit
- Press briefly to increase the value and cycle 0-9.
- Long press to move the cursor to the next digit.
- When done, long press to scroll to OK and short press to save and exit.

Default Alarm and Span Settings (ppm)

Sensor	Low	High	Span
CO	35	200	100
H ₂ S	10	20	25

Zero Validity (Clean Air)

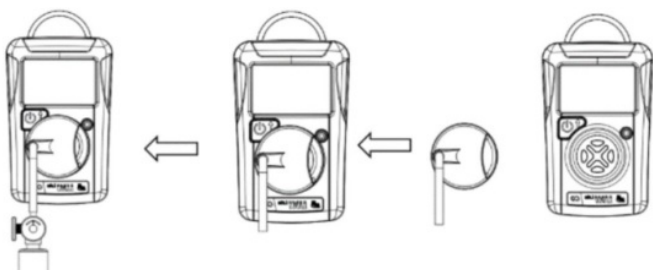
Zero calibration grounds the sensor and is performed in fresh air or another fresh air source. Set Setup Mode to “AIR?” is displayed as the first menu item. Long press to start counting down for 15 seconds of zero calibration, and then the result of “pass” or “fail” will be displayed.

To cancel, long press during the 15 second countdown, and “ABRT” displays to confirm.

Span Adjustment (MP112RT only)

Span calibration uses a gas of known concentration to determine the sensor’s response to the gas. (The MP112 requires the MP311 CaliCase 4-bay docking station to be modified). MP112RT manual procedures:

1. Make sure that the Span Cal value is set to the same assembly as the gas cylinder (mPower Suite).
2. Attach the calibration adapter over the front access door of the unit by pressing it into place.

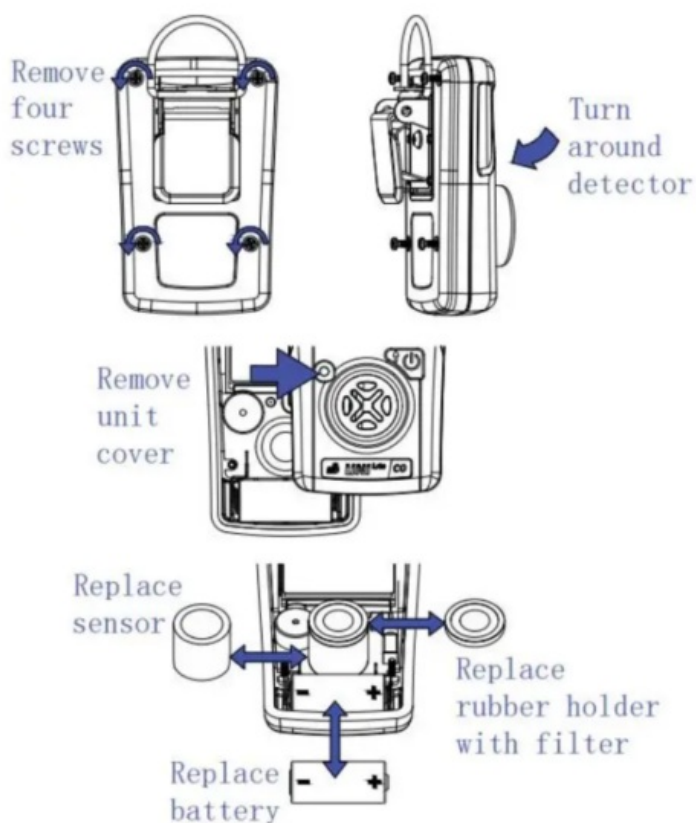


Use a fixed regulator with a flow rate preferably of 0.3 LPM, and no more than 0.5 LPM.

3. Enter Configuration. Mode and scroll to “SPAN?”
4. Start gas flow and long press to start low calibration count. The default count time is usually 45 seconds but may vary depending on the sensor type.
5. After finishing, the result of “pass” or “fail” will be displayed. Turn off the gas supply, remove the adapter, and exit Normal Mode.
6. To stop at any time during the countdown, long press and “ABRT” will be displayed.

Maintenance and Service

Battery: The MP112 has a built-in lithium battery. If the battery is dead, replace it with a new one. The alarm signal is 1 beep and flash per minute until a new battery is installed. When the battery is about to run out, the screen will show “bAT Low” and



instrument readings will no longer be displayed. After the display disappears, the unit will continue to beep and turn on for 1 minute. If the battery is not completely exhausted, the user can long press the control button to turn it off manually.

Sensor: If used in a dusty environment, clean the sensor inlet with compressed air to prevent dust accumulation from reducing the sensitivity of the detector. Replace the sensor as needed when it fails to calibrate or gives a noisy reading.

Warnings

When disassembling the case and replacing the battery, be careful not to damage the internal circuit of the block and pay attention to the positive and negative poles of the battery.

It is recommended that the detector be tested every three to six months or according to company regulations.

End of life


When the Monitor reaches the end of its 24-month operating life, the screen will display EOL and will no longer alarm or display levels (in the case of the MP112).

Proper Disposal of End-of-Life Products

The Waste Electrical and Electronic Equipment (WEEE) Directive (2002/96/EC) aims to promote the recycling of electrical and electronic equipment and their components at the end of their life. This symbol (crossed out wheel pin) indicates the separate collection of electrical and electronic waste in EU countries. This product may contain nickel-metal hydride (NiMH), lithium-ion, or alkaline batteries. Battery specific information is provided in this user manual. Batteries must be recycled or disposed of properly. At the end of its life, this product must undergo separate collection and recycling from general or household waste. Please use the return and collection system available in your country for the disposal of this product.

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References

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