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mPower Electronics MP112RT Disposable Single Gas Detectors

mPower Electronics MP112RT Disposable Single Gas Detectors Instruction Manual

Contents

mPower Electronics MP112RT Disposable Single Gas Detectors

Product Information

Specifications

- Model: UNI LITE MP112 & MP112RT Series
- Battery: Lithium mPower M500-0038-000 (EVE 14335) (3.6 V, 1650 mAh, 2/3 AA size)
- 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 Usage Instructions

User Interface

The UNI's user interface includes an LCD display, LEDs, an alarm buzzer, a push-button key, an alligator clip, and a chemical sensor.

Turning the Unit On

To turn on the unit, press and hold the Operation Key for 3 seconds until the LCD displays "On." The unit will enter a self-test sequence and then Normal Mode. The unit runs continuously until the remaining lifetime ends.

MP112 vs MP112RT Display

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

Configuration Mode Password

In Configuration Mode, the user can calibrate the unit and set High and Low Alarm Limits. The default password is 0000.

Configuration Mode Menu

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

Exit Configuration Mode

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

Alarm Limits

Alarms are triggered when readings exceed the set High or Low Alarm limit. To adjust an alarm limit, enter Configuration Mode and navigate to SET HIGH? or SET LOW?.

FAQ

Q: How can I check if the instrument is functioning properly before use?

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

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

A: Ensure that the display is not damaged or peeling. You may remove the blue protective film if present.

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Warning

- Never operate the monitor when the cover is removed.
- Remove the monitor cover and battery only in area known as non-hazardous.
- Use only mPower's lithium battery part number 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 having oxygen concentration greater than 21%.
- Substitution of components will impair suitability for intrinsic safety and void warranty.
- It is recommended to bump test with a known concentration gas to confirm the instrument is functioning
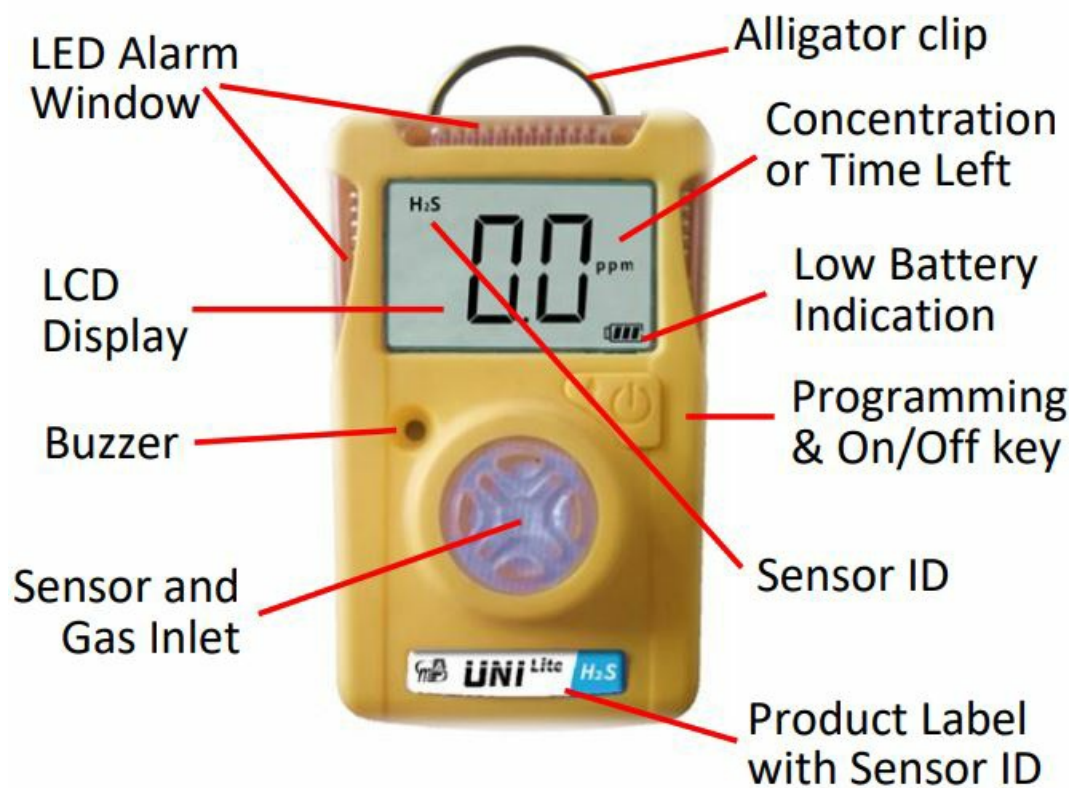
properly before use.

- Before use, ensure that the colorless ESD layer on the display is not damaged or peeling. (The blue protective film may be removed.)

Read Before Operating

The User's Guide must be carefully read by all individuals who have or will have the responsibility of using, maintaining, or servicing this product. The product will perform as designed only if it is used, maintained, and serviced in accordance with the manufacturer's instructions.

User Interface

The UNI's user interface consists of the LCD display, LEDs, an alarm buzzer, one push-button key, an alligator clip, and a chemical sensor.

Turning the Unit On

Press and hold the Operation Key ( ) for 3 seconds, until the LCD displays "On" enters a self-test sequence, and then enters Normal Mode. Once the unit is turned on, it cannot be turned off and runs continuously until the remaining lifetime ends.

MP112 vs MP112RT Display

The MP112 shows lifetime remaining starting at 24 months, while the MP112RT displays real-time concentrations for the first 21 months and then switches to time remaining for the last 90 days. Both units alarm and display the alarm type if any pre-set limit is exceeded.

Normal Mode Menus

From Normal Mode:

1. Short press to show the Peak reading and long press twice to clear the Peak. Or Short press again to enter EVT LOG, long-press until the beep to show the latest alarm event A1 and then short-press repeatedly to cycle through the last 10 alarm events. Up to 50 events can be viewed using mPower Suite.
2. Press 2 secs to initiate a Daily Alarm Test and cycle through the High & Low Alarm settings, Bump Due days remaining and User ID. MP112 also shows Cal Due days and remaining life.
3. Press 4 secs to go to Configuration 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 Configuration Mode.

Configuration Mode Menu

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

- AIR: Zero calibration
- SPAN calibration (MP112RT only)
- SET HIGH alarm limit
- SET LOW alarm limit
- EXIT: Exit Config Mode

Other features such as Span calibration on MP112, changing concentration units, setting Cal or Bump due date, and viewing the Event Log must be done using an MP311 CaliCase 4-bay docking station and mPower Suite software.
Configuration Mode navigation: In general, long-press the Key to enter the menu item and short-press to scroll to the menu next item, increase a number, confirm, or to move to the item within the menu. Adjust numerical digits as for password.

Exit Configuration Mode

Scroll to "EXIT?" and long-press to exit and return to Normal Mode.

Alarm Limits

Alarms are triggered when readings are above the Low or High Alarm limit. To adjust an alarm limit, enter Configuration Mode and scroll to: SET HIGH? or SET LOW?.

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

Default Alarm and Span Settings (ppm)

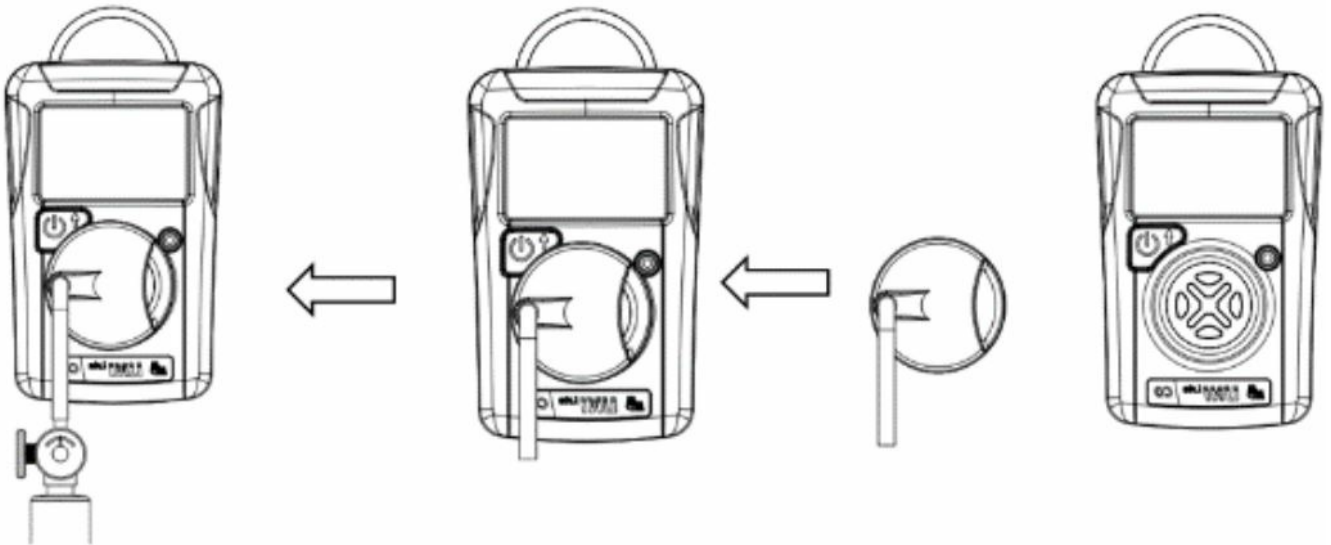| Sensor	Low	High	Span
CO	35	200	100
H₂S	10	20	25

Zero (Fresh Air) Calibration

Zero calibration sets the base line for the sensor and is done in fresh air or other clean air source. Enter Configuration Mode and "AIR?" displays as the first menu item. Long-press to start the15-second zero calibration count-down, after which a "pass" or "fail" result will be displayed.
To abort, long-press during the 15-second count, and "ABRT" displays to confirm.

Span Calibration (MP112RT only)

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

1. Ensure that the Span Cal value is set to the same concentration as the gas cylinder (mPower Suite).

2. Attach the calibration adapter over the inlet port on the front of unit by pressing it into place.
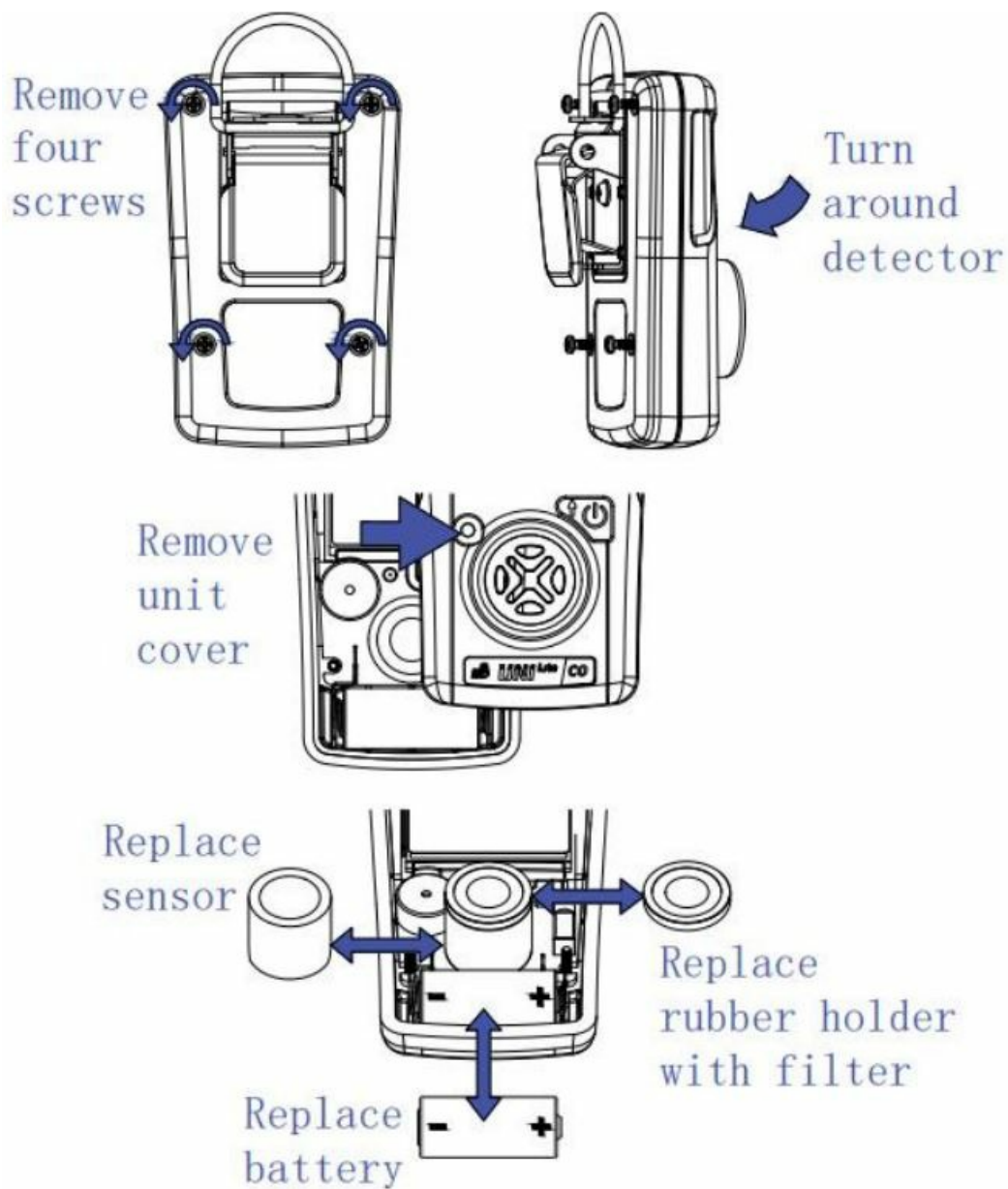
Use a fixed-flow regulator with a flowrate preferably of 0.3 LPM, and not more than 0.5 LPM.

3. Enter Config. Mode and scroll to "SPAN?"

4. Start the gas flow and long-press to start the calibration countdown. The default count time is usually 45 seconds but may vary with sensor type.

5. When finished, a "pass" or "fail" result will be displayed. Turn off the gas supply, remove the calibration adapter, and exit to Normal Mode.

6. To abort at any time during the count-down, long-press and "ABRT" is displayed.

Maintenance and Service

Battery: MP112 has a built-in lithium battery. If the battery is drained, 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 nearly drained, the screen will display "bAT LoW" and the

Remove four screws

Turn around detector

Remove unit cover

Replace sensor

Replace rubber holder with filter

Replace battery

instrument readings will no longer be displayed. After the display goes blank, the unit will continue to sound and light alarm for 1 minute. If the battery has not been fully drained, the user can long-press the control key for a manual shutdown.

Sensor: If used in high-dust environments, purge the sensor inlet opening with compressed air to prevent dust build-up from reducing the sensitivity of the detector. Replace the sensor as needed when it fails calibration or gives noisy readings.

Cautions
When disassembling the case and replacing the battery, be careful not to damage the internal circuit of the detector and pay attention to the positive and negative poles of the battery.
It is recommended that the detector be calibrated every three to six months or according to company regulations.

End of Life
When the Monitor reaches the end of it's 24-month operating life, the display will show EOL and will no longer alarm or show concentrations (if MP112).

Proper Product Disposal at The End Of Life

The Waste Electrical and Electronic Equipment (WEEE) directive (2002/96/EC) is intended to promote recycling of electrical and electronic equipment and their components at the end of life. This symbol (crossed-out wheeled bin) indicates separate collection of waste electrical and electronic equipment in the EU countries. This product may

contain one or more nickel-metal hydride (NiMH), lithium-ion, or alkaline batteries. Specific battery information is given in this user guide. 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.

Documents / Resources

mPower Electronics MP112RT Disposable Single Gas Detectors [pdf] Instruction Manual
MP112RT Disposable Single Gas Detectors, MP112RT, Disposable Single Gas Detectors, Single Gas Detectors, Gas Detectors

References

- **User Manual**