mPower Electronics
Making Powerful Senses

MUNI

Multi-Gas Detector
with Diffusion Sampling
Quick Start Guide

mPower Electronics Inc.
3046 Scott Blvd. Santa Clara, CA 95054
Phone: +1(408)320-1266
Fax: +1(669)342-7077
info@mpowerinc.com
www.mpowerinc.com

PN: M020-4003-000 v0.3

WARNINGS

Read Before Operating

The full MUNI User's Guide must be carefully read by all individuals who 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 manufacturer's instructions.

⚠ Warning

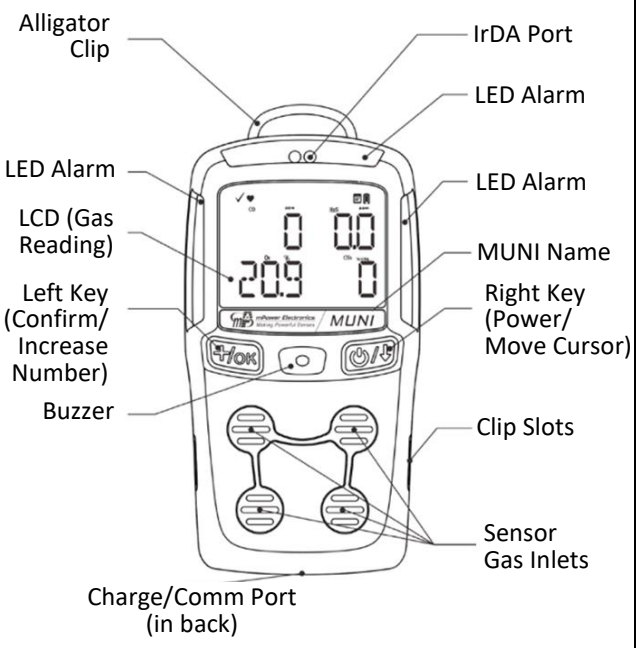
- Never operate the monitor when the cover is removed.
- Remove the monitor cover and battery only in area known as non-hazardous.
- This instrument has not been tested in an explosive gas/air atmosphere having oxygen concentration greater than 21%.
- Substitution of components will impair suitability for intrinsic safety and void warranty.
- It is recommended to bump with a known concentration gas to confirm the instrument is functioning properly before use.

⚠ Avertissement

- N'utilisez jamais le moniteur lorsque le couvercle est enlevé.
- Retirer le couvercle du moniteur et la batterie uniquement dans une zone connue comme non dangereuse.
- Cet instrument n'a pas été testé dans une atmosphère explosive gaz / air ayant une concentration en oxygène supérieure à 21%.
- La substitution de composants compromettra l'aptitude à la sécurité intrinsèque et annulera la garantie.
- Il est recommandé de tester avec un gaz de concentration con nu pour confirmer que l'instrument fonctionne correctement avant de l'utiliser.

User Interface

The user interface includes two operation keys, four sensor sockets, one large LCD, six alarm LEDs, one buzzer, and one vibration alarm.



Turning the Unit On

Press and hold the Down Key for 3 seconds, until the buzzer beeps and the red LED flashes. After a warm up and self-test sequence, the unit enters normal reading mode, showing real time gas concentrations.

Turning the Unit Off

In normal reading mode, press and hold the Down key for a 5-sec count down, until "Unit Off" is shown.

Charging

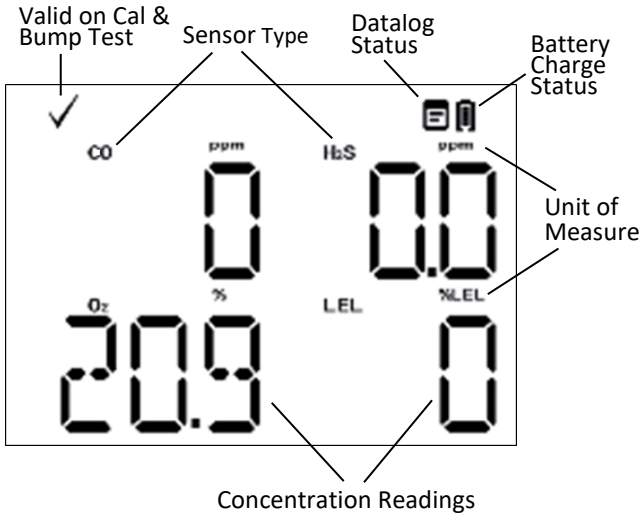
Always fully charge the battery before use. Plug the charge connector into the electrical contacts on the back of the MUNI. Only use the AC charger specified by mPower. The battery charge status is shown by the small icon on the LCD. During active charging, the icon cycles from empty to full if the unit is on. If the unit is turned off, a red LED indicates charging, which switches to green when completely charged.

Charging/Comm Cable

The USB Charging/Communications cable allows charging the unit on a personal computer, along with data download and configuration set-up. However, for full charging use the AC adapter.

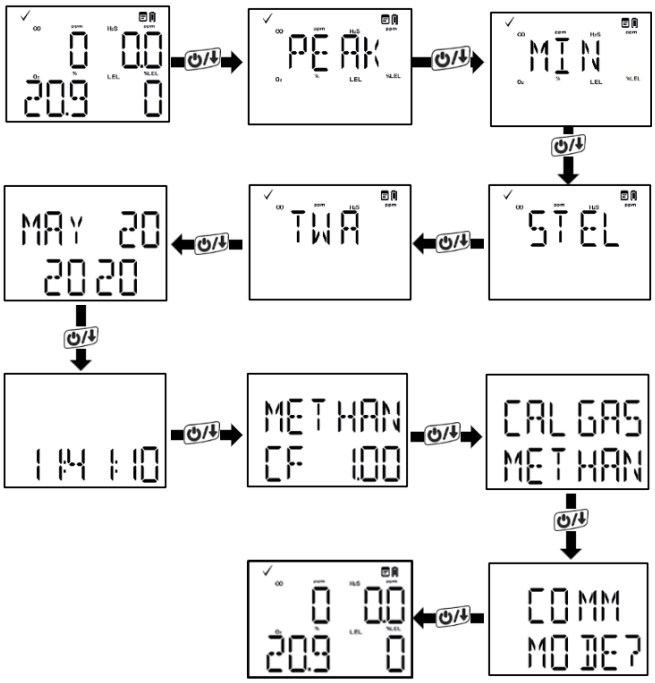
Normal Detection Mode

After warm-up is complete, the unit enters normal reading mode and displays the instantaneous gas concentrations continuously.



Press Right [⏻/↓] to scroll through the main menu and view the maximum values, minimum values, STEL, TWA, date, time, LEL measurement gas and correction factor, and LEL calibration gas.

Normal Detection Mode (continued)



From the last screen "Comm Mode", press the Left [+/OK] key to enter PC communication mode to download data and upload configurations.

Configuration Mode

In Configuration Mode, the user can perform sensor calibrations, change the alarm limits and set up other parameters. To navigate, use the the Right [⏻/↓] key to move the cursor to highlight a function or number and the Left [+/OK] key to enter or exit the function or increment numerical values. Hold down the Left [+/OK] key for continuous number scrolling.

Entering Config Mode

The configuration mode is password protected. Hold down the Left and Right keys simultaneously for 3 seconds and the password input screen appears. The default password of "0000". Input all four digits and press the Left [+/OK] key to enter config mode.

Config Mode Menus

CAL? Air calibration, single gas span calibration, multi-gas span calibration, span concentration setting, single gas bump test, multi-gas bump test, calibration interval, bump test interval.

SENSOR ONOFF? Enable/disable selected sensors.

SENSOR ALARM? Set high, low, STEL and TWA alarm threshold concentrations.

MNT SETUP? Set monitor date and time.

EXIT? Return to Normal Detection Mode.

Bump Test

A bump test is a quick 10-second check if the sensors and alarms are functioning, without doing a precise calibration. Preferably, calibration gas is used.

- To enter Bump Test:

  Config Mode → CAL? → → → MULTI BUMP?
- Press Left [+/OK] and bump gas concentrations are shown (usually same as span concentrations).

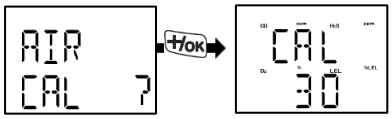
- Attach the Calibration Cap and start the bump (span) gas flow.

Press Left [+/OK] again. A 10-second count-down starts. When finished, "Pass" or "Fail" displays. To abort, Press Right [⏻/↓] at any time during the count-down.

Air Calibration

Zero calibration sets the baseline for toxic and combustible gas sensors and 20.9% for oxygen. It is done in normal fresh air or other clean air source.

- Enter air calibration:
  Config Mode → CAL? → AIR CAL?



- Press Left [+/OK] and a 30-second count-down starts. When finished, "Pass" or "Fail" displays. Press Right [⏻/↓] at any time to abort.
- The oxygen sensor is set to 20.9% during Air Calibration and can be set to 0.0% using nitrogen in the Single Span menu.

Span Calibration

Span calibration uses known concentrations of gas to define the response of the sensor(s) to the gas(es). Multiple sensors can be calibrated simultaneously using a gas mixture. Use a fixed-flow regulator providing about 0.5 LPM.

Span Calibration (continued)

- To **Set Span Value**:
  Config Mode → CAL? → → → SET SPAN?
- Press Right [⏻/↓] until the desired sensor is flashing, Left [+/OK] to select the sensor span, Right to highlight the desired digit and Left to change the span value.
- Move the cursor to the ? and press Left [+/OK] to save. Repeat with other sensors as needed.
- To perform **Span Calibration**:
  Config Mode → CAL? → → → MULTI SPAN?
- Press Left [+/OK] and span gas concentrations are shown:

- Connect the calibration cap to the front face of the MUNI (as for Bump) and start the span gas flow.
- Press Start and wait for the count-down timer and calibration result. Press Right [⏻/↓] to abort.
  Switch off the gas, remove the cal cap and exit the Cal? menu**.**

Change Alarm Limits

All alarm limits can be customized, including High, Low, STEL and TWA alarms.

- To enter the alarm limit setting:
  Config mode →→→ SENSOR ALARM? → HIGH ALARM? → LOW ALARM? → etc.
- Press Left [+/OK] enter the specific alarm menu.
- Press Right [⏻/↓] until the desired sensor is flashing, Left [+/OK] to select the sensor alarm, Right to highlight the desired digit and Left to change the alarm value. Hold down the Left [+/OK] key for continuous number scrolling.
- Move the cursor to the ? and press Left [+/OK] to save. Repeat for other alarm limits as needed.

Enable/Disable Sensors

- To disable or enable a sensor:
  Config mode →→ SENSOR ONOFF?
- Press Left [+/OK] to enter Sensor On/Off menu.
- The ON or OFF status of each sensor is shown, with the first flashing. Press Right [⏻/↓] until the desired sensor is flashing, Left [+/OK] to toggle On/Off, and Left [+/OK] again to save.

Maintenance and Service

An external filter clip (P/N M020-3007-005) is available to protect the sensors in high dust or dirty environments.

The battery is soldered to the circuit board and cannot be replaced by the user. For replacement of sensors or internal filters, and other maintenance or services, please refer to the User Manual or contact an authorized mPower service center.