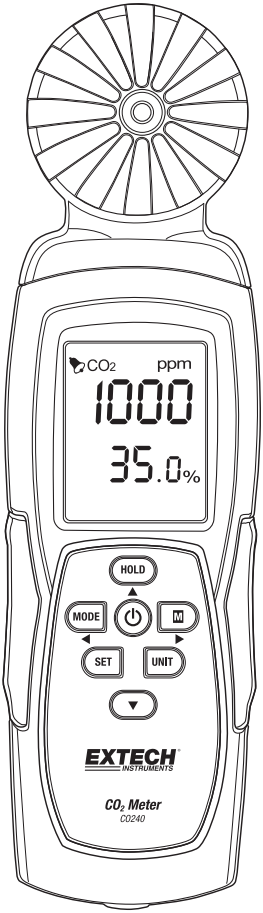
EXTECH INSTRUMENTS

USER GUIDE

Carbon Dioxide Meter

Model CO240



Introduction

Thank you for selecting the Extech Instruments Model CO240. The CO240 measures Carbon Dioxide (CO_2), Air Temperature, and Relative Humidity. It also calculates Dew Point Temperature and Wet Bulb Temperature. The user-programmable high alarm feature alerts the user when CO_2 level rises above the programmed limit and the data streaming feature allows readings to be captured in real time by PC (USB connection). This device is shipped fully tested and calibrated and, with proper use, will provide years of reliable service. Please visit our website (www.extech.com) to check for the latest version of this User Guide, Product Updates, and Customer Support.

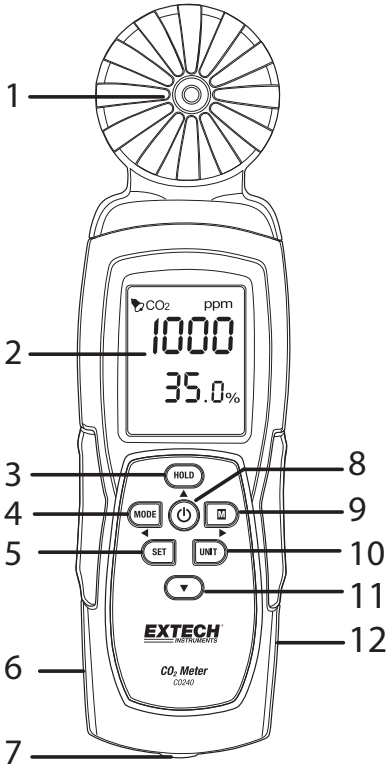
Features

- Portable meter measures CO_2, Air Temperature, and Relative humidity accurately
- Measures CO_2 (0~9,999ppm) using NDIR (Non-dispersive Infrared Technology)
- Dual display indicates Relative Humidity/Air Temperature and CO_2
- Calculates Dew Point and Wet Bulb Temperature
- Adjustable CO_2 high alarm threshold with audible beeper
- Tripod mount
- USB cable for PC data streaming (software supplied)
- Battery or AC Adaptor Powered

Meter Description

1. Sensors
2. LCD Screen
3. HOLD / Up Arrow Button
4. MODE / ◀ Left Arrow Button
5. SET Button
6. AC Adaptor jack
7. Tripod Mount
8. POWER (⏻) Button
9. M (Max/Min) / ▶ Right Arrow Button
10. UNIT Button
11. ▼ Down Arrow Button
12. USB PC interface port

Battery compartment on rear of meter.



Operation

Powering the meter

Momentarily press the **POWER** button to power on the meter. Hold the **POWER** button for 2 seconds to turn off the meter. During measurement, if the alarm is sounding (audible beeper) press the **POWER** button momentarily to turn off the beeper. Press again to activate the beeper function. The alarm beeper is set to ON by default. The meter can be powered by 6 AAA batteries or AC Adaptor.

Recommendation: For datalogging, power the unit using an AC/DC adaptor in order to conserve battery power.

Auto Power Off

The CO240 will automatically turn off after 20 minutes of inactivity. To disable the auto power off function: With the meter OFF, press and hold the **HOLD** button and then press the **POWER** button. The LCD will show "**n**", and will then return to normal measurement mode.

Measurements

When the meter is turned on, a self-test is implemented. Due to the nature of the NDIR sensor, it typically requires approximately ten minutes to obtain stable, accurate readings. If the USB cable is connected to the CO240, the USB symbol will be shown on the LCD.

The temperature and relative humidity readings will alternate on the lower LCD line along with the CO_2 reading on the top display line. Use the MODE button to switch to DP (Dew Point Temperature) and WB (Wet Bulb Temperature) modes (lower display line).

Maximum and Minimum Readings Memory

Momentarily press the **MAX/MIN** button to review the maximum and minimum readings captured since the meter was powered on. Pressing the button once will show the maximum value. Pressing the button again will display the minimum value. Pressing the button a third time will return the meter to its normal mode of operation. While in MAX-MIN mode, press and hold the **HOLD** button for 2 seconds to reset (clear) the stored maximum and minimum values.

Selecting ^{o}C/^{o}F units of measure

Press the **UNIT** button to select the desired temperature unit of measure.

Calibration

Press and hold the **SET + UNIT** buttons for 2 seconds to enter the self-calibration mode. Ensure that there is as little CO_2 present as possible. The LCD will display "**CAL**" and will perform a 60-second countdown as it performs the calibration. A reading of "**400**" is displayed as a normal CO_2 level reference value during the calibration. After the calibration has completed, the meter will return to its normal mode operation.

Automatic CO2 Baseline Calibration (ABC)

The ABC algorithm continually tracks the sensor's lowest reading over a fixed time interval and slowly corrects for any long-term drift (as compared to the expected fresh air value of 400ppm). The ABC period is 15 days, during which the ABC function default is always on.

CO2 Alarm Setting

Press and hold the **SET** button for 2 seconds to enter the high CO_2 alarm threshold. Press the **HOLD** button to increase the value, and the **BKLT** button to decrease the value. Press the **MODE** button to select the digit to the left and press the **MAX/MIN** button to select the digit to the right. Once the desired value is set, press the **SET** button for 2 seconds to save the alarm setting. The LCD will return to its normal mode of operation. The meter alarm limit default is 1000ppm (OSHA). Momentarily press the **POWER** button to toggle the alarm on and off.

Data Streaming to PC

The CO240 features real-time data streaming to a PC using the supplied SW200-S software. When the meter is connected to a PC, the USB icon will be visible on the LCD display. Please install the USB driver and supplied software before attempting to stream data. Refer to the Help Utility within the software program for further details.

Maintenance and Troubleshooting

Battery Replacement

When the battery icon appears on the LCD, the batteries must be replaced.

In a downward motion, slide the rear battery compartment cover off of the meter housing.

Remove the old batteries and replace with new batteries (all of the same type) observing correct polarity. This meter uses six (6) 1.5V AAA batteries. Please replace the battery compartment cover before attempting to use the meter.



Never dispose of used batteries or rechargeable batteries in household waste.

As consumers, users are legally required to take used batteries to appropriate collection sites, the retail store where the batteries were purchased, or wherever batteries are sold.

Disposal: Do not dispose of this instrument in household waste. The user is obligated to take end-of-life devices to a designated collection point for the disposal of electrical and electronic equipment.

Battery Safety Reminders

- Please dispose of batteries responsibly; observe all relevant regulations.
- Never dispose of batteries in a fire; batteries may explode or leak.
- Never mix battery types; install new batteries of the same type.

Troubleshooting / Error Message Displays

Erratic Readings	Replace the batteries or use the AC/DC adaptor and check again.
ER1 Display	CO_2, Temperature or Humidity sensor failure or a sensor communication error. Send for service if display persists.
ER2 Display	Out-of-range condition for CO_2, Temperature or Relative Humidity. Detected reading exceeds CO_2, Temperature or Humidity range specification. This error is normal when clearing the maximum and minimum readings in the MAX/MIN mode.
"9999" Display	Reading exceeds the CO_2 maximum measurement range or the battery power is weak.

Specifications

Display	Dual multifunction LCD
CO_2 measure range	0 to 9,999ppm
CO_2 accuracy	± (75ppm + 5% of reading) 0 to 2,000ppm
Temperature measurement range	-10 to 50°C (14 to 122°F); 0.1° resolution
Temperature Accuracy	± 1°C (1.8 °F)
Relative humidity measurement range	10 to 90%RH
Relative Humidity Accuracy	± 5% of rdg at 25°C (77°F) otherwise ±7% RH
Dew Point Temperature calculation range	-72.9 to 47°C (-99.22 to 118°F); 0.1° resolution
Wet Bulb Temperature calculation range	-11 to 48.2°C (12.2 to 118.8°F); 0.1° resolution
Power	AAA batteries x 6 pcs or AC adaptor
Dimensions	211 x 60 x 40 mm (8.3 x 2.4 x 1.6")
Weight	181.4 g (6.4 oz.)

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