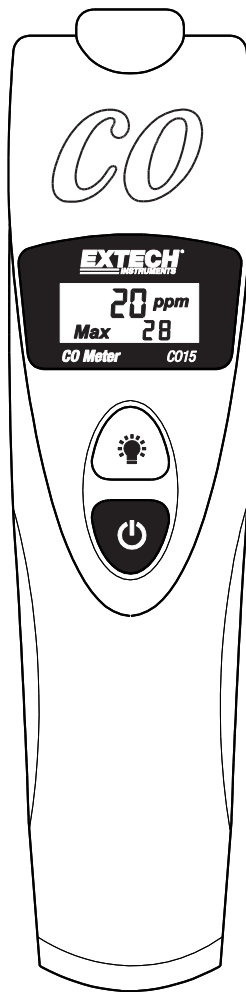
EXTECH INSTRUMENTS

User Manual

Carbon Monoxide Meter

Model CO15



Additional User Manual Translations available at www.extech.com

Introduction

Thank you for selecting the Extech CO15 Carbon Monoxide Meter. The CO15 is a digital, pen style meter, that measures and displays carbon monoxide (CO) concentrations between 0 and 999 parts per million (ppm). The CO15 can be used for ambient air safety checks of residential areas, appliances, HVAC service on furnaces and hot water heaters, home inspections, and industrial environments where the accumulation of CO is possible.

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 and translations of this User Manual, Product Updates, and Customer Support

Features

- Adjustable carbon monoxide warning level
- Dual Display
- Long life electrochemical sensor
- Audible alarm
- Backlit LCD for easy viewing in dimly lit areas
- Low battery indicator
- Auto power off
- Included wrist strap and carry pouch

Safety Information

IMPORTANT SAFETY NOTES

- The CO15 Carbon Monoxide Monitor is intended for general purpose Air Quality monitoring only, and has not been certified for use pursuant to any state or city safety Carbon Monoxide Alarm or Monitoring requirements.
- The CO15 Carbon Monoxide Monitor has not been tested by an independent lab to comply with UL 2034 or IAS 6-96 standard.
- It is the responsibility of the customer to obtain and apply current local, state, and national regulations with regard to CO alarms, monitoring and testing.

- Electromagnetic (EMI) interference my cause erratic meter readings; do not place meter near areas of high EMI when taking CO measurements.
- Recovery time is required after the meter has been exposed to high levels of CO (the longer the exposure, the longer the recovery time).

Carbon monoxide is life threatening even at relatively low concentrations; learn and recognize the effects of CO poisoning (see Table below). Do not use this meter as a personal safety monitoring device.

Effects of Carbon Monoxide (CO) Poisoning

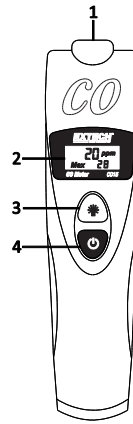
Warning: Ensure that the meter is powered on in room temperature and in an area free of CO. If not, the meter will read incorrectly when subsequently measuring CO.

0-1 PPM	Normal background levels
9 PPM	Maximum allowable short term exposure
50 PPM	Maximum allowable continuous exposure level in any 8-hour period, according to OSHA
200 PPM	Mild headache, fatigue, nausea and dizziness after 2-3 hours
400 PPM	Frontal headache with 1-2 hours, life threatening after 3 hours
800 PPM	Dizziness, nausea, convulsions within 45 minutes. Unconsciousness within 2 hours. **DEATH WITHIN 2 TO 3 HOURS**
1600 PPM	Headache, dizziness, nausea within 20 minutes, **DEATH WITHIN 1 HOUR**
3200 PPM	Headache, dizziness, nausea within 5-10 minutes. **DEATH WITHIN 25-30 MINUTES**
6400 PPM	Headache, dizziness, nausea within 1-2 minutes. **DEATH WITHIN 10-15 MINUTES**
12800 PPM	**DEATH WITHIN 1 TO 3 MINUTES**

Meter Description

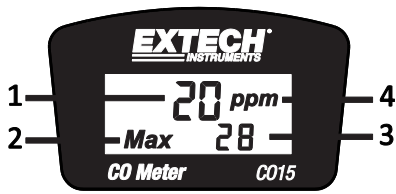
1. CO Sensor
2. LCD
3. Backlight/Units button
4. Power/Alarm limit button

Note: Battery compartment located on back of meter.



LCD Display

1. Primary Display
2. MAX reading mode
3. Secondary Display
4. Unit of measure



Button Descriptions

Turn the meter on and off (short press); Select alarm setpoint value (long press from a powered OFF state; release the button when desired alarm limit is displayed)

Turn the backlight on and off (short press); Toggle temperature units (long press during self-test period). Reset Maximum CO value (long press in normal operating mode)

Operation

Power the meter

IMPORTANT: Power the meter in a room temperature environment and in an area free of CO; otherwise the meter will read incorrectly when subsequently measuring CO.

Press the ⏻ button to power on the meter. The LCD will switch ON and display the programmed CO alarm limit in the primary display and the ambient air temperature in the secondary display (as shown in the LCD description section above). Replace the batteries if the display does not switch ON.

The meter performs a 15-second self-test during which the displayed values will blink. When the self-test is finished, the meter beeps and enters the normal operating mode.

Measurements

The CO15 detects the existence of carbon monoxide (CO) in the environment and displays the reading in parts per million (PPM) in the primary display.

1. To take a measurement, trace the CO15 around the area of the suspected leak.
2. The meter indicates the presence of carbon monoxide (CO) in PPM in the primary display. The secondary display indicates the maximum value since powered on.
3. Long press the “backlight” button while in measurement mode to reset the maximum value.
4. When high CO levels are detected an audible beeper sounds at 25 ppm alerting the user to the dangerous CO levels. The higher the concentration of CO, the faster the beeper will sound.
5. To turn the meter off, press the ⏻ button. The meter powers off after 15 minutes of inactivity.

Change Temperature Units

The temperature shows on the display during the self-test only. Power the meter in a room temperature environment for the most accurate readings. Long press the 💡 button during the self-test to change the temperature units to °C or °F.

Alarm Settings

An audible beep sounds at 25ppm alerting the user to dangerous CO levels. Change the alarm limit value by following the steps below.

1. Turn OFF the meter by pressing the ⏻ button.
2. Long press the ⏻ button until the options display on the screen.
3. The LCD cycles through these options: 25, 30, 35, 45, 50, 70, 100, 200 ppm.
4. Release the ⏻ button at the desired alarm limit value.
5. The meter enters the self-test mode.

Backlight

The meter features a backlit LCD for use in dimly lit areas. Press the 💡 button to power ON and OFF the backlight.

Auto Power OFF

The meter automatically powers OFF after 15 minutes of inactivity.

Maintenance

Battery Replacement

1. To access the batteries, remove the rear battery compartment cover by pushing up on the tab at the bottom of the meter. Do not operate the meter with the battery compartment open.
2. Replace the (3) 1.5V AAA batteries observing correct polarity.
3. Re-assemble the meter before use.

Safety: Please dispose of batteries responsibly; never dispose of batteries in a fire, batteries may explode or leak. If the meter is not to be used for 60 days or more, remove the battery and store separately.

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.

Specifications

Measurement range	0-999 ppm
Resolution	1 ppm
Accuracy	0 ~ 100 ppm: ± 20% 100 ~ 500 ppm: ± 15% *Accuracy stated for ambient conditions: 20°C ±5°C (68°F ±9°F) and 50% RH ±20%RH*
Sensor Type	Electrochemical
Power supply	(3) 1.5V 'AAA' batteries
Battery life	Approx. 250 hours (backlight off); 35 hours (backlight on)
Dimensions / Weight:	175 x 47 x 28mm (6.9 x 1.8 x 1.1") / 158.8g (5.6 oz.)

Troubleshooting

Error	Problem	Solution
Display	No display when pressing power button	Ensure batteries are properly installed with correct polarity
		Replace batteries
Display	Display switches off	Check for low battery indicator; replace batteries
Display	Calibration Failure	Check for low battery indicator; replace batteries
E2	Measurement is below the range of the meter	Check readings in a different area
E3	Measurement is above the range of the meter	Check readings in a different area
E4	Data error	Contact Extech for service
E31	A/D failure	Contact Extech for service
E33	Measurement circuit failure	Contact Extech for service
E35	Self-test failure	Power meter in an area free of carbon monoxide
	Sensor Failure	Contact Extech for service