

# **CEN-TECH**

## **CARBON MONOXIDE METER**

**Model 92340**

### **ASSEMBLY AND OPERATING INSTRUCTIONS**



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For technical questions and replacement parts, please call 1-800-444-3353

## Specifications

Measurement Range	0-1000 PPM (Parts Per Million)
Measurement Resolution	1 PPM
Accuracy	5% + or - 10 PPM
Warm-up Period	Less Than 2 Seconds
Power Source	9 Volt Battery (included)
Overall Dimensions	2-1/2" W x 6-3/8" L x 1-3/8" Thick
Weight	1/2 Lb.
Features: Auto Power Off after 15 min. of no activity, Audible Alarm begins at 35 PPM and continues beeping until 200 PPM, Continuous tone after 200 PPM, Max. Hold and Data Hold feature.	

## Save This Manual

You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep the manual and invoice in a safe and dry place for future reference.

## Safety Warnings and Precautions

**WARNING: When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.**

**Read all instructions before using this tool!**

1. **Keep work area clean.** Cluttered areas invite injuries.
2. **Observe work area conditions.** Do not use battery powered tools in damp or wet locations. Don't expose to rain. Keep work area well lighted. Do not use battery powered tools in the presence of flammable gases or liquids.
3. **Keep children away.** Children must never be allowed in the work area. Do not let them handle the Carbon Monoxide Meter.
4. **Store idle equipment.** When not in use, the Carbon Monoxide Meter must be stored in a dry location. Always lock up the Carbon Monoxide Meter and keep it out of reach of children.
5. **Use the right tool for the job.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. There are certain applications for which this tool was designed. It will do the job better and more safely at the rate for which it was intended. Do not modify this tool and do not use this tool for a purpose for which it was not intended.
6. **Dress properly.** Protective, electrically nonconductive clothes and nonskid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
7. **Use eye protection.** Always wear ANSI approved impact safety goggles.
8. **Maintain tools with care.** Keep the Carbon Monoxide Meter clean for better and safer performance. The unit must be kept clean, dry, and free from oil and grease at all times.
9. **Disconnect power.** Turn off the power switch when not in use. When not in use for over a week, remove the battery to save power.

10. **Stay alert.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.
11. **Check for damaged parts.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not use the tool if any switch does not turn On and Off properly.
12. **Guard against electric shock.** Prevent body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerator enclosures.
13. **Do not operate tool if under the influence of alcohol or drugs.** Read warning labels if taking prescription medicine to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.
14. **Maintenance.** For your safety, service and maintenance should be performed regularly by a qualified technician. The batteries must be changed regularly.

**This is not a personal safety device. This Carbon Monoxide Meter is not designed to take the place of a home Carbon Monoxide detector.**

**Warning:** The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

## Unpacking

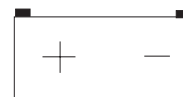
When unpacking, check to make sure the parts shown on page 6 are included. If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual as soon as possible.

## Operation

**Refer to the Assembly Drawings on page 6.**

### Battery Replacement

**Note:** If the battery becomes weak, the LCD will display the following:



1. Remove the Protective Cover.
2. Use a screwdriver (not included) to remove the screw on the lower portion of the battery compartment.
3. Take out the old battery and replace it with a new 9 Volt battery. Make sure the battery polarity marks (+ and -) match up with those in the battery compartment.
4. Replace the back cover and secure it with the screw. Replace the protective case.

## Operation (continued)

**Note:** When operating the unit, make sure the Sensor on the back of the unit is free and clear of any obstructions.

### Operating the Carbon Monoxide Meter

1. Press the On/Off button to activate the unit and it will begin measuring as you carry it, while walking around the test area. The results will be displayed on the LCD in PPM (Parts Per Million).
2. When finished, press the On/Off button to turn off the unit.

**Note:** For use in dark environments, the LCD will light up. Press the Back Light button (see page 6) to turn on the light, and press it again to turn it off.

### Special Features:

1. To freeze the Carbon Monoxide Meter at a specific reference for later use, press the HOLD button. The word HOLD will appear on the LCD along with the saved measurement. To return to normal operation, press the HOLD button again.
2. If you want to keep track of the highest reading you take, press the MAX button. The LCD readout will not change as the unit takes in new readings. It will only show the highest reading encountered since you pressed the MAX button. To return it to normal operation, press the MAX button again.

### Important Carbon Monoxide Information



**Carbon monoxide is DEADLY in a closed environment. Early signs of Carbon Monoxide poisoning resemble the flu, with headaches, dizziness, or nausea. If you have any of these signs, GET FRESH AIR IMMEDIATELY, whether the meter has a high reading or not.**

Carbon Monoxide (CO), a colorless, odorless gas, is produced in dangerous levels from internal combustion engines (in enclosed areas) such as automobiles, lawnmowers, and any other small engine appliance. Gas, oil, and kerosene appliances that are not properly maintained will also produce this deadly gas. In the house, plugged chimneys, dirty flues, gas heaters, fireplaces, and furnaces are also capable of producing quantities of this silent killer. If high readings are found, immediately open a window and ventilate the room, if possible shut off the appliance, evacuate the area, and call your gas supplier or a qualified technician for analysis of the problem and service.

US Department of Labor, Occupational Safety & Health Administration (OSHA) regulation 1917.24: The CO content in any enclosed space shall be maintained at not more than 50 PPM (0.005%). Remove employees from enclosed space if the CO concentration exceeds 100 PPM (0.01%).

## Important Carbon Monoxide Information (continued)

### Selected problems and the fuels and appliances that cause them.

**WARNING:** These problems should only be diagnosed and remedied only by a qualified technician. Carbon Monoxide is very hazardous, and fuels are explosive. Proper, safe, professional maintenance techniques are essential to reduce the risk of FIRE, EXPLOSION, and exposure to Carbon Monoxide, which may cause DEATH.

**Stove and Fireplaces that burn gas, wood, and coal produce too much Carbon Monoxide if these problems are present:**

1. Cracked firebox.
2. Cracked Heat Exchanger.
3. Green or treated wood.
4. Defective/Blocked flue.
5. Insufficient air.

**Ranges and Ovens that burn natural gas or LPG (Liquefied Petroleum Gas) produce too much Carbon Monoxide if these problems are present:**

1. Improper venting.
2. Misused as a heater.
3. Maladjusted burner.
4. Insufficient air.

**Water heaters that burn natural gas or LPG produce too much Carbon Monoxide if these problems are present:**

1. Insufficient air.
2. Blocked/defective flue.
3. Maladjusted burner.

**Room/Central Heaters that burn kerosene produce too much Carbon Monoxide if these problems are present:**

1. Improper venting.
2. Insufficient air.
3. Wrong wick or wick height.
4. Wrong fuel. (Only use K-1 fuel.)
5. Improper adjustment.

**Central Heating Furnaces that burn coal and kerosene produce too much Carbon Monoxide if these problems are present:**

1. Cracked Heat Exchanger.
2. Insufficient air.
3. Defective grate.

**Gas Furnaces and room heaters that burn natural gas, LPG, or oil produce too much Carbon Monoxide if these problems are present:**

1. Cracked Heat Exchanger.
2. Insufficient air.
3. Blocked/defective flue.
4. Maladjusted burner.

## Assembly Drawings



**No replacement parts available for this unit.**

### Maintenance

1. After each use, wipe the unit down with a lint free cloth.
2. Keep the Sensor clear of all foreign debris.
3. Do not allow the unit to freeze, or to sit in direct sunlight for extended periods.

#### PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

**NOTE:** Some parts are listed and shown for illustration purposes only and are not available individually as replacement parts.