

Carbon Monoxide Meter Instruction Sheet

CO1000

Introduction

The Carbon Monoxide Meter detects the presence of carbon monoxide (CO) and measures concentrations between 1-1000 parts per million (PPM). The meter indicates the presence of carbon monoxide in two ways:

- 1) By a reading on the LCD in PPM.
- 2) By a beeper tone

Safety Information - Read First

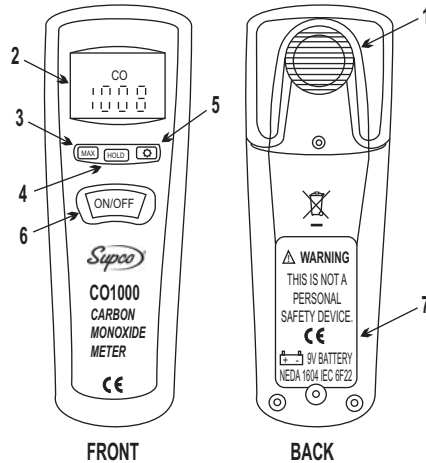
- 1) Do not use the Meter as a personal safety monitor.
- 2) Learn and recognize the effects of CO poisoning.

0-1 PPM	Normal background levels.
9 PPM	ASHREA Standard 62-1989 for living areas.
50 PPM	OSHA enclosed space 8-hour average level. *
100 PPM	OSHA exposer limit. *
200 PPM	Mild headache, fatigue, nausea, dizziness.
800 PPM	Dizziness, nausea, and convulsions. Death within 2-3 hours.

*U.S. Department of Labor, Occupational Safety and 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%)

Instrument Familiarization

1. CO Sensor
2. LCD Display
3. MAX Hold Button
4. Data HOLD Button
5. Back-Light Button
6. ON/OFF Power Button
7. Battery Door



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DATA HOLD - This function allows the meter to “freeze” a measurement for later reference.

- 1) Press the “HOLD” button to freeze the reading on the display.
- 2) Press the “HOLD” button again to return to normal operation.

MAX HOLD - Press the “MAX” button to hold the highest reading on the display. The meter reading will not change as readings change, rather it will only display the highest reading encountered since the “MAX” button was pressed. Press “MAX” again to return to normal operation.

POWER BUTTON - Press “POWER” button to turn on the meter. Press again to turn off.

BATTERY REPLACEMENT - When battery power is low, LCD will display . Open battery cover and replace with one 9V battery. Close battery cover when finished replacing battery.

Reset Meter

Press and hold the display back-light for 8 seconds. The LCD will show “00000000” then “-----” indicating that the meter is reset.

What the Meter Does

The Meter indicates the presence of CO by a reading on the LCD and a beeper tone.

- 1) Above 200 PPM, the beeper sounds continuously with the concentration of CO.
- 2) From 35 to 200 PPM, the beeper sounds discontinuously with the concentration of CO.

Specifications

Operating Temp.	0°C to +50°C
Storage Temp.	-30°C to +60°C
Operating Humidity	0-99% Relative humidity (non-condensing)
Measurement Range	0 to 1000 PPM
Measurement Resolution	1 PPM
Accuracy	±5% or ± 10 PPM
Warm up Period	<2 seconds
Battery	9V, NEDA 1640A or IEC 6LR61, or equivalent.
Auto Power Off	Meter automatically shuts down after 15 minutes or inactivity.
Sensor Type	Stabilized electrochemical Gas-specific (CO)
Typical Sensor Life	3 years

Common Sources of CO

Common sources of potentially dangerous levels of CO are:

1. Poorly maintained furnaces, gas heaters, or fireplaces.
2. Dirty or plugged chimneys, or flue exhausts.
3. Poorly maintained gas, oil, or kerosene appliances.
4. Internal combustion engines (e.g., automobiles, lawnmowers, blowers).

CO Appliance Malfunction

Appliance	Fuel	Typical Problems
Gas furnaces Room heaters	Oil, natural gas, or LPG (Liquified petroleum gas)	<ol style="list-style-type: none"> 1. Cracked heat exchanger. 2. Not enough air to burn fuel properly. 3. Defective / Blocked flue. 4. Maladjusted burner. 5. Building not properly pressurized.
Central heating furnaces	Coal or kerosene	<ol style="list-style-type: none"> 1. Cracked heat exchanger. 2. Not enough air to burn fuel properly. 3. Defective grate.
Room heaters Central heaters	Kerosene	<ol style="list-style-type: none"> 1. Improper adjustment. 2. Wrong fuel (not K-1). 3. Wrong wick or wick height. 4. Not enough air to burn fuel. 5. System not properly vented.
Water heaters	Natural gas or LPG	<ol style="list-style-type: none"> 1. Not enough air to burn fuel properly. 2. Defective / Blocked flue. 3. Maladjusted burner. 4. Building not properly pressurized.
Range ovens	Natural gas or LPG	<ol style="list-style-type: none"> 1. Not enough air to burn fuel. 2. Maladjusted burner. 3. Misuse as a room heater. 4. System not properly vented.
Stoves Fireplaces	Gas, wood, coal	<ol style="list-style-type: none"> 1. Not enough air to burn fuel properly. 2. Defective / Blocked flue. 3. Green or treated wood. 4. Cracked heat exchanger. 5. Cracked firebox.