REED

Model R9400

CO Meter
with Temperature

Instruction
Manual

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For service on this or any other REED product or information on other REED products, contact REED Instruments at info@reedinstruments.com

Safety

> **For safety reasons, we recommend that this unit be certified every year.**

Do not use the meter as a personal safety monitor.

Learn and recognize the effects of CO poisoning:

0 to 1 ppm	Normal background levels
9 ppm	ASHRAE Standard 62-1989 for living areas
35 ppm	The average exposure level per U.S. OSHA workplace standards
50 ppm	OSHA enclosed space 8-hour average level*
100 ppm	OSHA exposure limit*
200 ppm	Mild headache, fatigue, nausea and dizziness
400 ppm	Headache occurs in 2.5 to 3.5 hours
800 ppm	Dizziness, nausea and convulsions Death within 2 to 3 hours

* U.S. 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%).
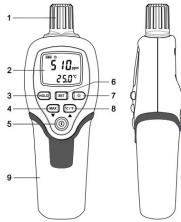
Features

- Large LCD dual display shows both Carbon Monoxide (CO) and Temperature measurements
- Backlit LCD display
- Adjustable alarm limits
- Low level battery indicator
- Auto power off
- Max/Data hold functions

Specifications

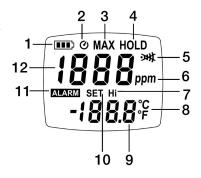|	
Display:	Dual display
CO Range:	0 to 1000 ppm
CO Accuracy:	±5% reading or ±5 ppm (whichever is greater)
Temperature Range:	-20 to 70°C (-4 to 158°F)
Temperature Accuracy:	±0.8°C (±1.5°F)
Resolution:	1 ppm / 0.1°
Sensor Life:	3 years
Sensor Type:	Stabilized Electrochemical CO Specific Sensor Thermistor Temperature Sensor
Response Time (@ t90; in slowly moving air):	Carbon Monoxide: 60 seconds Temperature: 10 seconds Temperature Coefficient: 0.1 x (specified accuracy)/°C (< 23°C or > 23°C)
Operating Temperature:	0 to 50°C (32 to 122°F)
Operating Humidity:	10 to 90%RH
Storage Temperature:	-20 to 70°C (-4 to 158°F)
Storage Humidity:	0 to 80%RH
High CO Alarm:	Audible alert when CO level rises above programmed limit
Sample Rate:	2 times per second
Power Supply:	4 each AA/R6 batteries
Battery Life:	200-hours continuous (with alkaline battery)
Dimensions:	190 x 65 x 45 mm (7.5 x 2.6 x 1.7")
Weight:	Approx. 235 g (8.3oz)
Accessories:	Batteries and Soft Carrying Case

Instrument Description

1. Sensor
2. LCD Screen
3. Hold Button
4. Max / Down Button
5. Power Button
6. Set Alarm Button
7. Backlight Button
8. °C/°F / Up Button
9. Battery Cover

Display Description

1. Battery Capacity
2. Auto Power Off Indicator
3. Max Indicator
4. Data Hold Indicator
5. Beeper Off
6. Unit Indication
7. Alarm Level
8. Unit Indication
9. Temperature Reading
10. SET Alarm
11. Alarm Indicator
12. CO Reading

Operating Instructions

Push the Power Button to turn the meter on and off. When turning the meter on it will preform a self diagnostic test. The LCD will count down from 60 to 0 while emitting a beep. If the meter passes the self-test it will begin monitoring, showing the current CO and Temperature readings on the screen. If the meter does not pass the self-test the LCD will display "Err" and the meter will not take a measurement.

If the meter reads above 1000 ppm the LCD will display "OL" to indicate an out of range condition.

The beeping functions much like the clicking of a Geiger counter:

*   The higher the concentration of CO the faster the beeps will sound
*   When above 200 ppm the beeper sounds continuously, while the frequency of the tone increases with the concentration of CO

Selecting Temperature Units

When the meter is first powered on the default scale setting is set to the Celsius (°C) scale. Press the °C/°F Button to switch between Celsius and Fahrenheit. The meter will start up in the Temperature scale that was selected when turned off.

Data Hold

Press the Hold Button to freeze the current reading on the display. Press the button again to resume normal measuring. When Data Hold is active the Max and °C/°F Buttons are disabled.

Set High CO Alarm Threshold

Press and hold the Set Alarm Button to Set the CO High Alarm Threshold. The setting range is from 0 to 1000 ppm. The default is set to 35 ppm. While holding the SET Button, press the Up and Down buttons to adjust the value. Release the SET Button to save and resume normal measuring.

Max Value

While taking a measurement, press the Max Button to enter Max Value Mode. Under this mode the maximum value is kept in the memory and updated with every new data reading. The Max Indicator will appear on the screen when the meter is in Max Value Mode.

While the Max Indicator is on the screen the meter is updating the memory. This means that the data has been updated in the memory and the reading is the present temperature and carbon monoxide.

Press the Max Button again to detect the immediate value, and the Max Indicator will flash on the LCD.

To exit Max Value Mode, press and hold the Max Button for two seconds.

Auto Power Off

By default, when the meter is powered on, it is in the auto power off mode. The meter will power itself off after 30 minutes if no key operation is performed. To disable the auto power off feature, press and hold the Hold Button while powering on the meter. The Auto Power Off Indicator will disappear from the LCD indicating it is disabled.

Backlight

Press the Backlight Button to turn the LCD Backlight on and off.

Beeper Off

To turn the beeper off on the meter, press and hold the Backlight button while powering the meter on. The Beeper Off indicator will appear on the LCD. To re-enable the beeper, turn the meter off and then turn it back on.

Battery Replacement

1. Remove the screw at the bottom of the battery door and lift the door away from the meter
2. Remove the four AA batteries from the compartment
3. Replace with four new AA batteries, observing proper polarity as depicted on the bottom of the battery compartment
4. Replace the battery door and tighten the screw to lock it in place