

CO Detector (HHCO)

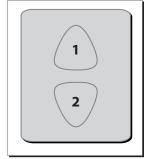


- Dual digital displays of current and maximum carbon monoxide levels
- Adjustable CO warning level with "geiger counter" style audible indicator
- Low battery indicator
- Auto power off function
- Backlight for working in dark areas
- Supplied with wrist strap, batteries and soft carry case

Operation

Press button 2 to turn the meter on and off.

After a 15 second warm-up the meter is ready to use and will display the normal operating screen (Fig. 2).



Keypad (Fig. 1)

Pressing button 1 will turn the backlight on and off.

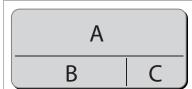
Pressing and holding button 1 for more than 2 seconds will reset the maximum value on the unit.

The unit will turn off automatically after 15 minutes of inactivity.

When battery supply is low, the low battery indicator will show (Fig.2). Change the batteries.

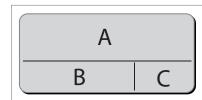
NOTE: Only turn the meter on in an area free of CO as high levels may cause failure during the self-test.

Display



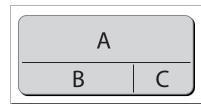
- **A** = CO reading in ppm
- **B** = Maximum CO reading since power-on
- **C** = Low battery indicator

Normal Operation (Fig. 2)



- **A** = Alarm threshold
- $\mathbf{B} = N/A$
- $\mathbf{C} = \mathbf{N}/\mathbf{A}$

Setup Mode (Fig. 3)



- **A** = Current alarm threshold
- **B** = Current temperature
- C = N/A

Self-test Mode (Fig. 4)

Setup

To enter the setup mode (Fig. 3) turn the unit off then press and hold button 2.

As the unit turns on it will begin cycling through the available alarm thresholds. Simply release button 2 when you reach your desired threshold.

The unit will then enter self-test mode (Fig. 4). The current alarm threshold will be displayed at the top of the screen and the current temperature at the bottom.

To change the temperature display between centigrade and fahrenheit press and hold button 1.

Fresh Air Correction

CO

To ensure accuracy it is recommended that the unit be turned on in fresh air. For 0_{ppm} correction press and hold buttons 1 and 2 simultaneously. The unit will flash continually for about 10 minutes, then return to normal operation.

For 100 or 500_{ppm} correction, press and hold button 1 to select the required value and place the unit into a sealed box filled with standard gas of that value.

Check that the reading meets the the selected value. If it does, correction has completed successfully. If not, repeat the procedure.

Ignore any erratic readings during correction. These are caused by electromagnetic interference (EMI).

To abort correction at any time, simply turn the meter off.

CAUTION: For 0_{ppm} correction, it is strongly suggested that the unit be turned on in an environment free from CO. Correcting the unit at this value in an area with high levels of CO could cause the unit to fail at self-test.

CO Levels

ppm	Symptoms and applicable standard
0 - 1	Normal background levels.
9	Maximum indoor air quality level. Maximum allowable concentration per ASHRAE Residential standards 62 - 1989 for living area.
25	Maximum limit 8hrs. of continuous exposure per California OSHA workplace standards.
35	Maximum 8 hrs. average exposure level per US OSHA workplace standards.
50	Maximum concentration for continuous exposure in any 8 hrs. average level per OSHA standards.
100	Remove employees from enclosed space if CO concentration exceeds 100ppm per OSHA exposure limit.
200	Mild headache, fatigue, nausea and dizziness within 2 - 3 hrs.
400	Frontal headache, life threatening after 3 hrs. Maximum concentration in flue gas per the US EPA and AGA standards.
800	Dizziness, nausea, convulsions, death within 2 - 3 hrs.
1600	Nausea within 20 mins., death within 2 - 3 hrs.

Specification

CO

Range of 0 - 999ppm Resolution of 1ppm Accuracy;

- $\pm 20\%$ at 0 ~ 100ppm
- ± 15% at 100 ~ 500ppm

Alarm Thresholds

25, 30, 35, 45, 50, 70, 100 and 200ppm

Fresh air correction

Can be corrected to 0, 100 and 500ppm

Warm Up

15 seconds

Power

3 pcs AAA batteries (supplied)

Battery Life

250 hours when backlight is off, 35 hours when on

Troubleshooting

Power on but no display

Press button 2 for more than 0.3 seconds and try again. Check whether batteries are in good contact and correct polarity is observed.

Display disappears

Check if low battery indicator is on. If so, replace the batteries.

Fresh air correction failure

Check if low battery indicator is on. If so, replace the batteries. Make sure the standard gas is correct.

Error messages

E 2:The value is under range

E 3: The value is over range

E 4: Error due to some original data

E 31: A/D failure, return meter to dealer for repair

E 33: Measurement cicruit failure, return meter to dealer for repair

Notices

- Keep the meter away from electromagnetic interference (EMI) which may cause erratic readings.
- Recovery time is required if the unit is exposed to high levels of CO. The longer the length of exposure, the longer the recovery time needed.