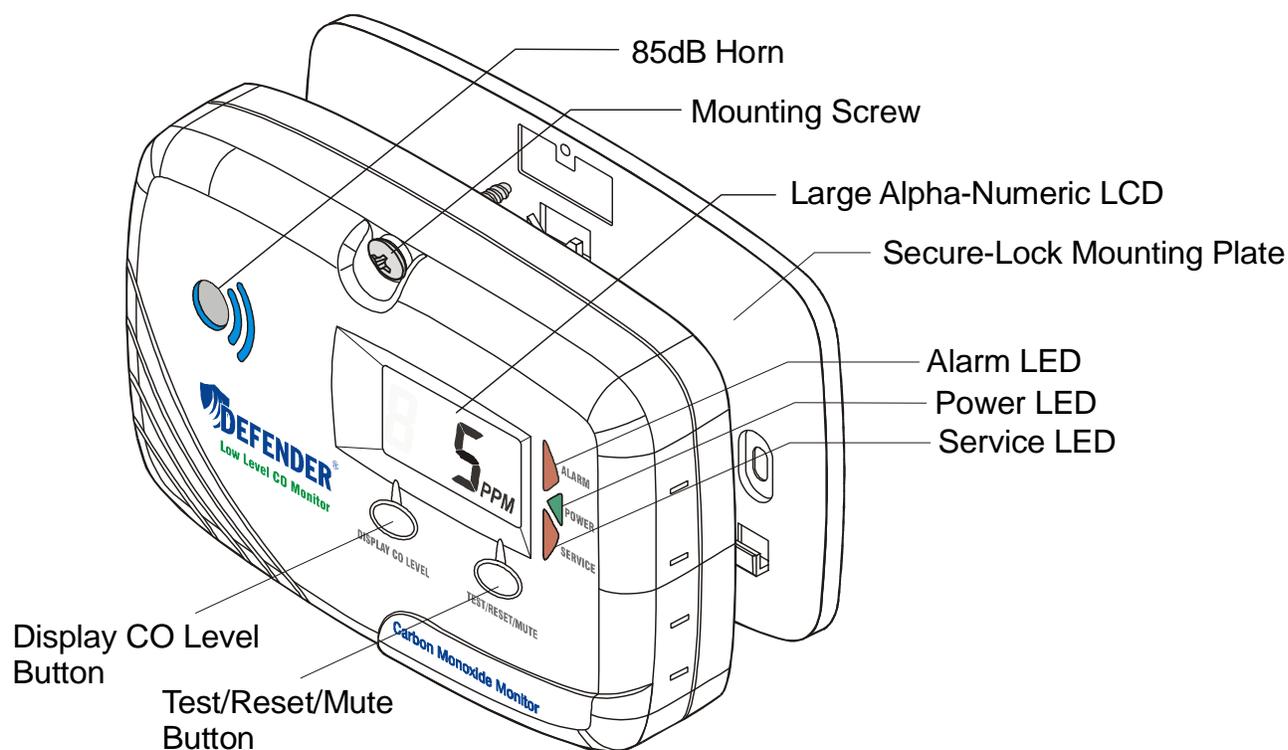




# LL6170 Carbon Monoxide Monitor

## QUICK START GUIDE

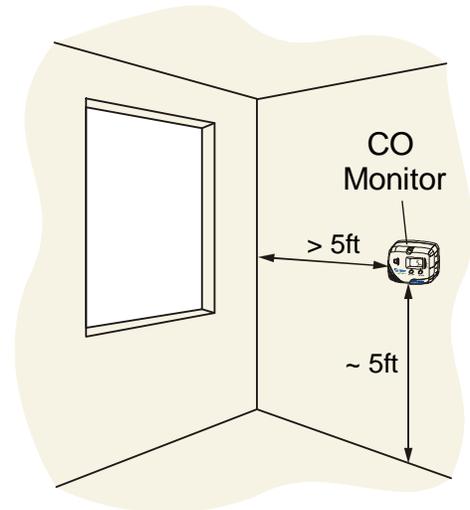


The UL2034 standard for residential carbon monoxide (CO) alarms does not permit listed CO alarms to automatically display or alarm at CO levels below 30 ppm. The Defender LL6170 is designed to provide added protection for older adults, pregnant women, young children, and persons with medical conditions who may be more vulnerable to lower CO levels, and is not UL listed. When installed in residential applications, this monitor should supplement, not replace, a UL listed CO alarm.

# 1. RECOMMENDED LOCATION OF MONITORS

CO poisoning can happen anywhere in the building. CO monitors should be installed onto an interior wall, five feet off the floor, and on every conditioned level of the building. At the minimum, install CO monitors:

1. Inside or near every area or room that may be occupied.
2. To cover every 1000 square feet of vertically unobstructed space.
3. Inside, near access door, of maintenance room that contains combustion equipment or appliances, such that an alarm signal will be heard before anyone enters the room.
4. Inside any room where someone may sleep with the door closed, or that is occupied by someone who may be hypersensitive to CO, such as older adults, young children, pregnant women or persons with medical conditions.

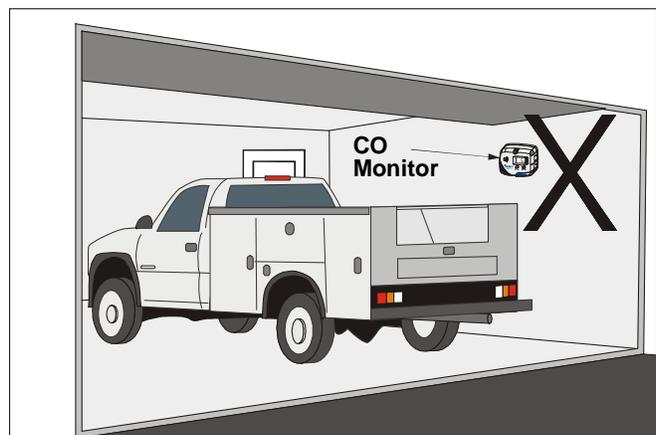


CO detection is best achieved by the installation of CO monitors in all heated/conditioned areas and rooms of the building.

# 2. LOCATIONS TO AVOID

Do not install a CO monitor:

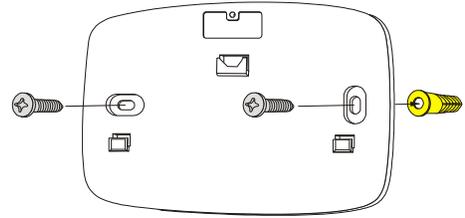
1. Inside of a garage, cleaning supply room, bath room, dusty area or unconditioned space. The monitor's operation temperature range is 40°F to 100°F.
2. Within five feet of a combustion or cooking appliance including a furnace, boiler, water heater, space heater, oven or range.
3. Within five feet of a window or exterior door.
4. Within three feet of a room with a bathtub, shower, spa or washer/dryer.
5. Within one foot of a wireless device.
6. Where the monitor would be obstructed by furniture, drapes, etc.
7. In a hazardous area, as defined in the National Electrical Code.



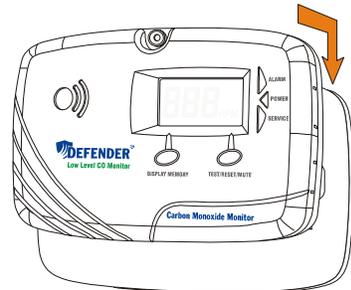
### 3. INSTALLATION INSTRUCTIONS

Follow these steps in this order to install the CO monitor:

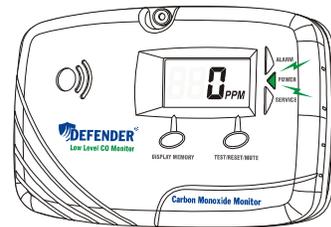
1. Fasten the mounting plate to the wall at eye level, about 5' off the floor.



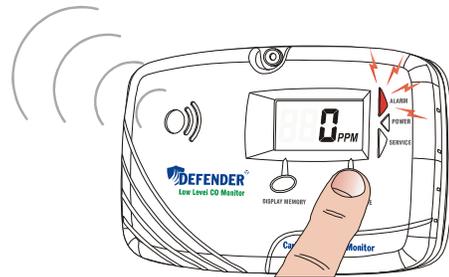
Slide monitor down onto mounting plate.



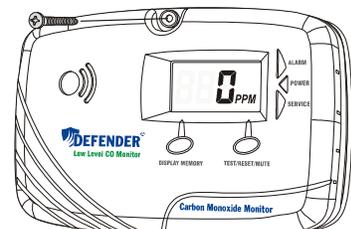
Connection between mounting plate and monitor will turn activation switch **ON**.



2. Press and hold test button until monitor starts to beep, then release. The monitor should beep 4 times, pause, and then beep 4 times again. **ALARM** red LED should flash at the same time.

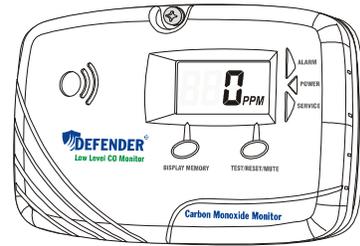


3. Secure monitor to mounting plate, with Phillips head screw provided, through the mounting hole on top of monitor.

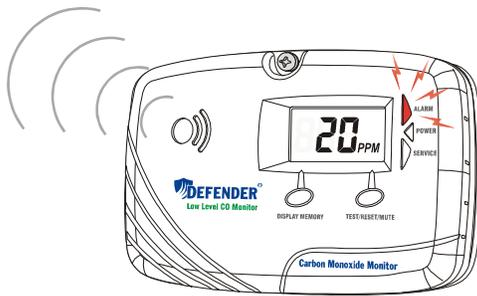


## 4. CONDENSED OPERATION INSTRUCTONS

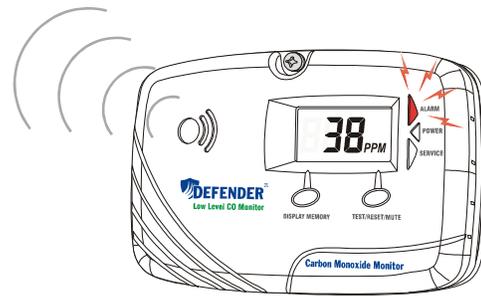
**OPERATION:** The CO monitor is operational once the activation switch is slid to **ON** position. If the monitor's power is active, the LCD readout will display 0 PPM, or the current CO level if 5 PPM or more is detected.



**ALARM CONDITION:** When the batteries are active, and CO gas is detected at a level and duration specified in Section 3 of the Owner's Manual, the horn will sound and **ALARM** red LED will light. The alarm signal will sound 4 short beeps every minute for CO levels detected between 15-24 PPM, or every 6 seconds if over 24 PPM. The **ALARM** red LED will flash in sync with the beeping sound. The LCD will also display the current CO level detected. After having alarmed for more than 5 minutes, the alarm signal will change to 4 short beeps every 60 seconds for CO levels detected between 15-149 PPM, or every 20 seconds for CO levels detected of 150-500 PPM or more. The alarm signal is either manually or automatically reset. See Section 10 **WHAT TO DO WHEN THE ALARM SOUNDS**.



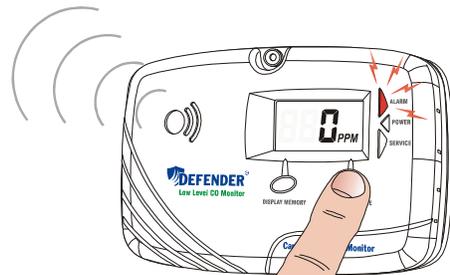
**Beeps 4 times per minute  
when 15 – 24 PPM**



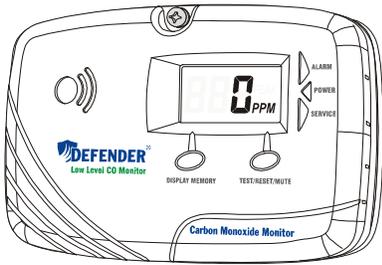
**Beeps 4 times every 6 seconds  
when > 24 PPM**

### **TEST/RESET/MUTE BUTTON:**

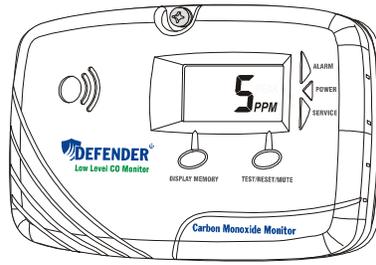
The **TEST/RESET/MUTE** button is used to check the monitor for proper operation, and to temporarily mute horn for 8 hours when alarm is activated at CO levels between 15-24 PPM, or 5 minutes if over 24 PPM. The mute feature is disabled if CO levels reach 150 PPM or more. The LCD will display current CO level if 5 PPM or more is detected while monitor is tested, or **OFF** for 5 seconds when an alarm signal is muted. See Section 10 of the Owner's Manual **WHAT TO DO WHEN THE ALARM SOUNDS**.



**LCD DISPLAY FUNCTION:** When monitor is operating normally, the LCD will display 0 PPM or the current CO level if 5 PPM or more is detected. Above 500 PPM, the LCD will flash “500 PPM”. The LCD will display  symbol if batteries have low voltage.



**Continuously Displays 0 PPM**  
(below 5 PPM)



**Auto. Displays 5 - 500 PPM**  
(e.g. 5 PPM detected)



**Display Flashes Above 500 PPM**  
(e.g. 700 PPM detected)

**DISPLAY MEMORY BUTTON:** To manually display the highest CO level detected, press the **DISPLAY MEMORY** button once. The LCD will display the recorded data in the following order:

1. The highest (peak) CO level detected within the last 30 days from 5 to 500 PPM.
2. The total length of time the highest CO level was detected, within 10% of the peak, from 1 to 999 minutes.



**Highest CO Level**  
(e.g. peak of 25 PPM detected since activated or cleared)



**Duration of Peak CO Level**  
(e.g. peak detected for 60 minutes)

Each reading will appear for five seconds. To erase the record in memory, press the **DISPLAY MEMORY** button, and while the readings are being displayed, press the **TEST/RESET/MUTE** button. The monitor will burst a long beep, and display .



**IMPORTANT!** Read all instructions of the complete Owner’s Manual before installation and operation of this CO monitor, including important messages, information about carbon monoxide, monitor functions and operation, how to test and mute monitor, what to do when alarm sounds, limitations of CO monitors, good safety habits, sensor end-of-life and monitor service, description of audible and visual signals, and limited warranty.