CO2Meter.com

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Application Note 138: eSense Installation

Proper Installation of the eSense LEED, OSHA, or FAI CO2 Monitor

This document shows you how to mount the eSense for LEED, OSHA or FAI (Fresh Air Indicator) on a wall in a home, office, or factory for indoor air quality or for CO2 storage safety
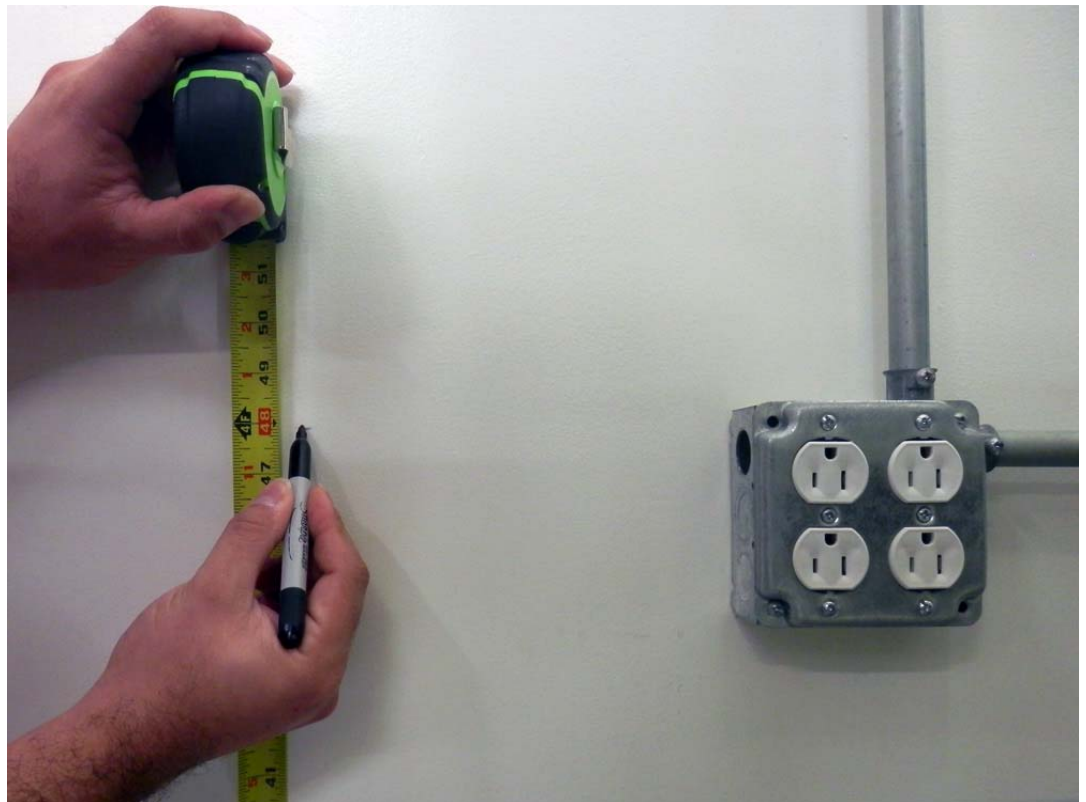
Indoor Air Quality

In most homes or offices, wall-mounted CO2 monitors are used to monitor carbon dioxide levels as they would be experienced by occupants. They should be located at the same height (48 inches or 122cm is standard) and on the same wall as you would mount a thermostat. Like a thermostat, they should not be near outside doors or windows that can make the space appear to have more fresh air than it actually does.

CO2 Storage Safety

Wherever compressed CO2 is stored or created, CO2 safety alarms should be mounted 18 inches (45cm) off the floor. Because carbon dioxide is heavier than air, it will first pool at floor level, then fill the enclosed space. The rate at which the space is filled is dependent on the size of the leak, but in a small room CO2 levels can become life-threatening very quickly.

1. Mounting

Mount your sensor either at 48" above the floor (indoor air quality) or at 18" above the floor (safety).

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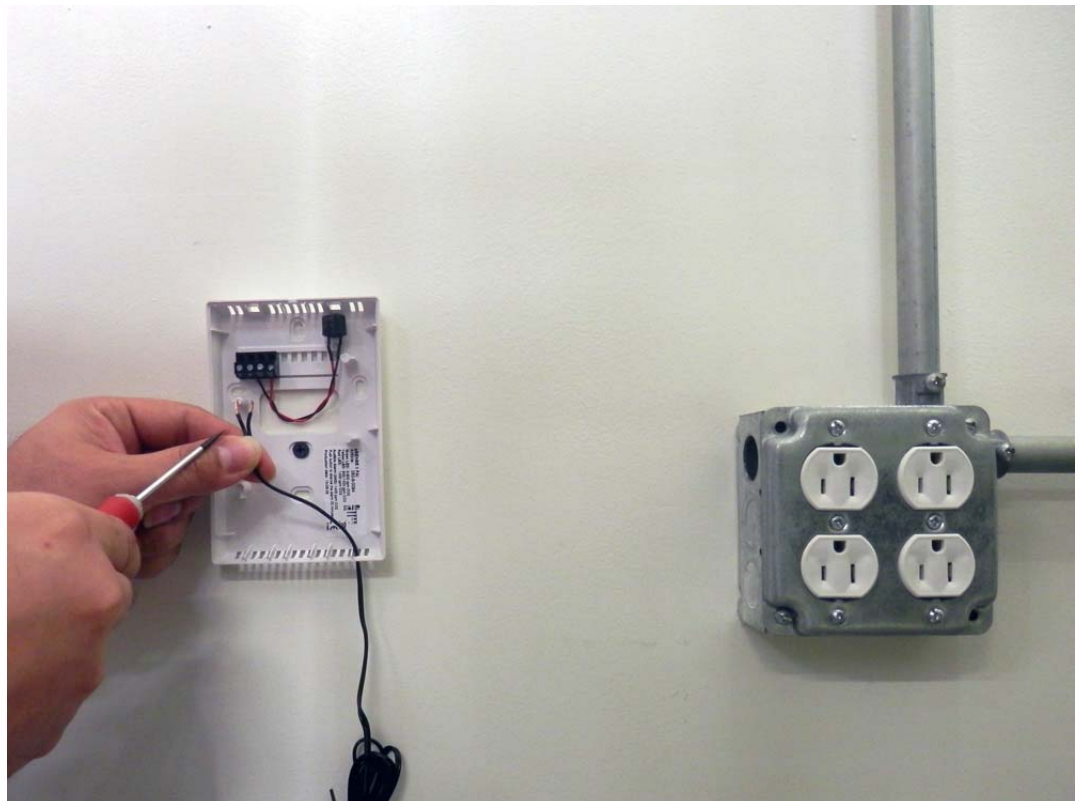EMAIL: sales@co2meter.com | www.co2meter.com

2. Install the Backplate

Use drywall, masonry or sheet metal screws in the holes provided.

3. Prepare Power

Strip both wires 3⁄8" from a 24VAC or 24VDC power supply. Depending on your application, you may need to either hard-wire the 24V to meet safety codes, or you can purchase a steel strap to secure a 24V power supply so it cannot be unplugged. Please consult your local safety codes for specifics.

If you use our power supply, the cable with a stripe is positive, and the black cable is negative.

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4. Wiring

Connect power to the terminal block. If you are using 24VAC, polarity is not important. If you are using 24VDC, connect the positive wire to the positive terminal block (outside-left screw) and the negative wire to ground. Note ground shares a common terminal with the buzzer.

(•)   (•)   (•)   (•)
24VDC   +   Ground
24VAC   W1   W2*

* VAC wire placement not important
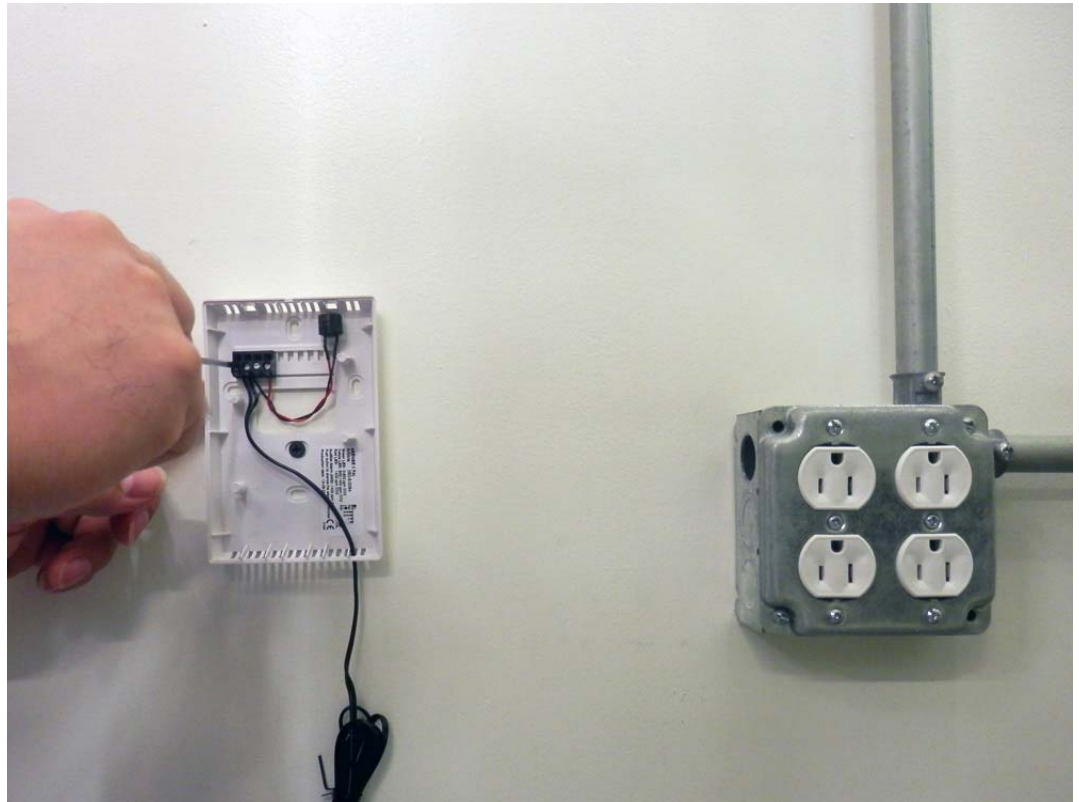
5. Install Cover

The eSense is designed to be powered on at all times. Install the cover, taking special care that the power pins on the cover plate insert into the back plate securely. If the unit does not power on when the cover is installed, use a flat-blade screw driver to gently remove the cover, test your connections, and repeat the process.

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6. Power-On Test

When the cover is installed, the eSense is automatically powered. After a few seconds, the CO2 level will settle to a steady number. To quickly test the unit, blow on it. CO2 in your breath will push the CO2 levels up until the red LED lights and the alarm sounds. Press the red button on the front of the cover to temporarily silence the alarm until the CO2 level drops back to normal.

7. CO2 Storage Safety

Under normal conditions in a room without people, the eSense CO2 meter should read approximately 400ppm for long periods. While not dangerous, CO2 levels up to 5,000ppm may be tolerated for short time periods. However, even if levels are not high enough to set off the alarm, any CO2 levels above the eSense's normal 400ppm unoccupied room reading state should be considered a potential problem and investigated immediately.