



# Industrial CO2 Detector

## Frequently Asked Questions

### CM-900 Industrial CO2 Detector

Please find below a conglomeration of frequently asked questions about the CM-900 Industrial CO2 Detector, their installation, application, and use. If you cannot find an answer to your questions, please contact the technical sales team at CO2Meter directly at [sales@co2meter.com](mailto:sales@co2meter.com) or by calling 877- 678-4259.

#### **What are the dimensions and weight of the device?**

The device measures 8.25-inch x 7.8-inch x 3-inch.

The device weighs 1.5 lbs.

#### **Where do I mount the sensor/device?**

The International Fire Code calls for the device/sensor to be mounted at 12 inches off the floor. Some jurisdictions may allow for different heights depending on obstructions or use cases. Consult your local fire inspector.

#### **Is this model designed to withstand direct impacts?**

The aluminum, powder coated exterior is designed to withstand mechanical/physical damage in industrial settings as well as direct spray from hoses.

The industrial housing provides an IP65 rating for the device.

#### **How do I wire the detector for power?**

The device is designed to be hard wired into your facilities electrical system. We provide connector options depending on how your electrician wants to wire the device.

Reference the pin connections for the detector in the manual to connect the device for power.

Wiring the device for power should be done by a licensed electrician.

#### **Where does the device need to be mounted in the room?**

Different applications allow for different coverage areas. First, conduct a hazard assessment to determine how many detectors you'll need and where they should be mounted.

Typically, the detector covers approx. 1,250 sq. feet (length x width of the space).

The following areas should consider additional detectors:

Purposefully enriched areas

Areas larger than 1,250 sq. feet

Applications where machinery is designed to utilize CO2 for packaging.

### **How do I know which code/regulation I have to meet?**

Ask your local fire inspector to provide details about the specific code you are being asked to meet. Typically, it will be a local code, the International Fire Code, the National Fire Protection Association code, or the National Board Inspection Code. The codes are similar but do have some specific requirements you may need to be aware of. You can always contact CO2Meter.com (the manufacturer) for assistance in deciphering your code requirements.

### **Why can the fire inspector ask me to do something not in the code?**

The Inspector is the Authority Having Jurisdiction. The AHJ is given the right to make a code/requirement more restrictive than detailed in the published document.

### **My bulk tank or cylinders are stored outside. Do I still need a monitor?**

Outside storage of tanks and cylinders is allowed by the code and the manufacturers of these storage vessels. However, the gas is being used INSIDE the facility and the employees need to be safe. A hazard assessment should be completed to properly understand the areas that need to be monitored for employee safety.

### **What are the alarm settings for the device?**

Alarm 1 – pre-set to 5,000 ppm Time Weighted Average (a rolling 8 hr. average designed to measure someone's exposure over an 8-hour work cycle). This is an OSHA requirement. Alarm 1 cannot be altered.

Alarm 2 – pre-set to 5,000 ppm (aka 0.5%) instantaneous. Can be set as low as 5,000 ppm and as high as 3.0% in 0.5% increments.

Alarm 3 – pre-set to 30,000 ppm (aka 3.0%). Can be set as low as 2.5% and as high as 4.0% in 0.5 % increments.

### **What happens when the device "goes off"?**

Alarm 1 – The display on the device will provide an accurate reading of the ppm or percentage level depending on the concentration of the gas. A flashing red LED indicates that the device has exceeded 5,000 ppm TWA. The LED will continue to flash until the average falls below 5,000 ppm. No audible indication is triggered. The relay for AL1 and AL2 will be active allowing for any 3<sup>rd</sup> party device connected to them to also activate.

Alarm 2 – The display on the device will provide an accurate reading of the ppm or percentage level depending on the concentration of the gas. Red LED's for AL1 and AL2 will begin to flash, and the 88-dB audible indication will sound. The relay for AL1 and AL2 will be active allowing for any 3<sup>rd</sup> party device connected to them to also activate.

Alarm 3 - The display on the device will provide an accurate reading of the ppm or percentage level depending on the concentration of the gas. Red LED's for AL1, AL2, and AL3 will begin to flash and the 88 -dB audible indication will sound twice as fast as the previous alarm level. The relay for AL1, AL2, and AL3 will be active allowing for any 3<sup>rd</sup> party device connected to them to also activate.

\*Note\* The alarms levels on the device area designed to “latch”. The latching function ensures that the device must work its way back out of the alarm levels in a descending manner.

**Can the monitor trigger a 3<sup>rd</sup> party device if it goes into alarm status?**

Yes. The devices' three alarm levels each have their own normally open/normally closed, dry contact relays tied to the alarms. When the alarm level is triggered, the appropriate relay will trigger the device it is wired to. The monitor will NOT power the device but will trigger it to turn on/off.

**We'd like to have strobe lights activated when the detector goes off. How do we do that?**

Each of the three relays in the device can activate a 3<sup>rd</sup> party device like a horn/strobe. Reference the pin connections for the detector in the manual to connect your preferred horn/strobe to the device.

**I see the detector has a 4-20 ma output. How can I connect to that?**

The 4-20 ma output is designed to allow you to “see” the devices readings outside the space (security system, building control system, etc.). This option is intended for industrial settings not for standard commercial settings.

The 4-20 ma output can be wired from the 16-pin connector on the bottom of the detector. Reference the pin connections for the detector in the manual to connect the 4-20 ma output to your system.

CO2Meter recommends you consult your electrician or security company to use the 4-20 ma output.

**Can the device transmit the data wirelessly?**

The current version of the device does not allow for wireless transmission of the data.

Expect to see upgraded versions with this functionality in late 2024.

**Can I connect my CO2 monitor to a battery back-up system?**

Yes. The device will accept the 12-volt back-up power supply from your facility (exit signs and lights run on this circuit).

Reference the pin connections for the detector in the manual to connect the battery back-up to the device.

**My inspector told me I need to add strobe lights to my device. Which do you suggest?**

CO2Meter recommends the CM-1029 Horn/Strobe for this device. Its audible and visual indicators are ideal in combination with the device.

**How can I test the device to see if it's working correctly?**

See the manual for recommended testing procedures to demonstrate the device is functional.

**Can I get a calibration certificate with my device?**

CO2Meter will ship the device with a factory calibration certificate. CO2Meter does not retain the certificates after shipping.