



**Monthly Topic: Gas Detection Q&A**

- **What is the difference between CO and CO<sub>2</sub>?**
  - CO (Carbon Monoxide) is a colorless, odorless, tasteless toxic gas formed by the incomplete combustion of carbon compounds like gasoline, wood, coal, natural gas, propane, kerosene, oil and other heating gases. Automobile internal combustion engines are the largest source of CO.
  - CO<sub>2</sub> (Carbon Dioxide) is a colorless, odorless gas with an acrid taste formed by human and animal respiratory cycles as well as combustion. Unsafe levels can build up in normally occupied areas as a result of poor ventilation. CO<sub>2</sub> is used for beverage carbonation and plant growth acceleration.
- **What is the appropriate mounting height for a gas detector?**
  - Detector mounting height varies between gases and is determined by the density of the target gas relative to air. Review the chart to the right for Macurco's recommendation.
- **How large of an area will a single detector typically cover?**
  - Residential: home, office, hotel, dormitory, etc.
    - Carbon Monoxide: one detector per 900 sq. ft.
    - Combustible Gases: one detector per 900 sq. ft.
  - Commercial: parking garage, warehouse, etc.
    - Carbon Monoxide: one detector per 5,000 sq. ft.
    - Combustible Gases: one detector per 900 sq. ft.
    - Nitrogen Dioxide: one detector per 5,000 sq. ft.
- **Is there a recommended wiring gauge to use when installing these devices?**
  - Based on the distance of the run, Macurco follows the National Electrical Code recommendations:
    - 20 AWG for up to 575 feet, 18 AWG for up to 686 feet, 16 AWG for up to 1,300 feet, 14 AWG for up to 2,100 feet and 12 AWG for up to 3,200 feet. *\*See instructions for RS-485 wiring.*
- **What is the typical life of a gas detector?**
  - Sensor life varies from product to product and is usually determined by the sensor technology used in each device. Environmental exposures can negatively affect the performance and lifespan.
- *This article covers general gas detection information. Please refer to the documentation located on [www.macurco.com](http://www.macurco.com) for specific product information. If you have any questions, please contact us by email at [info@macurco.com](mailto:info@macurco.com) or by phone at 877-367-7891.*

MOUNTING LOCATION	GAS TYPE
Near the Ceiling - 1' BFC*	Ammonia (NH <sub>3</sub> )
	Hydrogen (H <sub>2</sub> )
	Methane (CH <sub>4</sub> )
Breathing Zone - 4-6' AFF**	Carbon Dioxide (CO <sub>2</sub> )
	Carbon Monoxide (CO)
	Nitrogen Dioxide (NO <sub>2</sub> )
	Oxygen (O <sub>2</sub> )
Near the Floor - 1' AFF**	Gasoline
	Hydrogen Sulfide (H <sub>2</sub> S)
	Propane (C <sub>3</sub> H <sub>8</sub> )
	Refrigerants
* BFC - Below Finished Ceiling ** AFF - Above Finished Floor	

**Web Resources                      Macurco Literature                      Categories**

- |   |  |                                     |
|---|--|-------------------------------------|
| • <a href="#">Macurco Downloads</a>       | • <a href="#">Quick Reference</a>            | • <a href="#">Commercial Series</a> |
| • <a href="#">Repair &amp; Service</a>    | • <a href="#">Parking Garage Guide</a>       | • <a href="#">Security Series</a>   |
| • <a href="#">Macurco Product Archive</a> | • <a href="#">Gas &amp; Product Training</a> | • <a href="#">Calibration Kits</a>  |

**Common Applications**

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|--------------------|-----------------------------|------------------------|
| ✓ Parking Garages  | ✓ Oil & Gas Drilling        | ✓ Residential Homes    |
| ✓ Food Processing  | ✓ Maintenance Facilities    | ✓ Hotels & Apartments  |
| ✓ Office Buildings | ✓ Bus Depots                | ✓ Schools              |
| ✓ Restaurants      | ✓ Battery Charging Stations | ✓ Wastewater Treatment |