MACURCO
GAS DETECTION

Monthly Topic: Gas Detection Q&A

- **What is the difference between CO and CO_2?**
  - 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_2 (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_2 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.

MOUNTING LOCATION	GAS TYPE
Near the Ceiling - 1' BFC*	Ammonia (NH_3)
	Hydrogen (H_2)
	Methane (CH_4)
Breathing Zone - 4-6' AFF**	Carbon Dioxide (CO_2)
	Carbon Monoxide (CO)
	Nitrogen Dioxide (NO_2)
	Oxygen (O_2)
Near the Floor - 1' AFF**	Gasoline
	Hydrogen Sulfide (H_2S)
	Propane (C_3H_8)
	Refrigerants

** BFC - Below Finished Ceiling*
*** AFF - Above Finished Floor*

- **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 for specific product information. If you have any questions, please contact us by email at info@macurco.com or by phone at 877-367-7891.*

Web Resources

- Macurco Downloads
- Repair & Service
- Macurco Product Archive

Macurco Literature

- Quick Reference
- Parking Garage Guide
- Gas & Product Training

Categories

- Commercial Series
- Security Series
- Calibration Kits

Common Applications

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

Visit our website: www.macurco.com
Questions or Comments? Email info@macurco.com or Call 877-367-7891
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