



SMOKE/CARBON MONOXIDE DETECTORS IN COMMERCIAL PROPERTIES

INTRODUCTION



When there is a fire, smoke can spread fast. Working smoke alarms/detectors give occupants an early warning so that they can get to a safe location quickly. Having a working smoke alarm/detector may cut the chances of dying in half, in most fires.

On the other hand, carbon monoxide (CO) is an invisible threat. Often called the invisible killer, carbon monoxide is an odorless, colorless gas generated when fuels (gasoline, wood, charcoal, natural gas, propane, oil, and methane) burn incompletely.



Working smoke and carbon monoxide devices can alert employees, customers and visitors to the presence of smoke, fire and/or carbon monoxide.

SMOKE/CO ALARMS VS SMOKE/CO DETECTORS

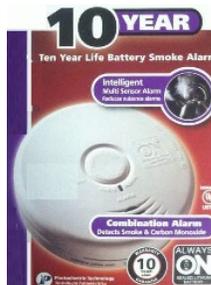
Question: What is the difference between alarms and detectors?

Answer:

An **alarm** is an all-in-one, self-contained device, with a sensor, that sounds an audible alarm when there are products of combustion (smoke) and/or carbon monoxide present. These alarms are commonly found in residential apartments or houses.



Conventional batteries alarms



10-year sealed alarms



Hardwired alarms

A **detector** is a detecting device only, which senses the products of combustion (smoke) and/or carbon monoxide and sends a signal to the building's fire alarm system to activate an audible alarm. The detectors are NOT stand-alone units. These detectors may not sound an internal audible alarm. **Many commercial properties are required to install smoke and/or CO detectors that are connected to a fire alarm system.**



SMOKE DETECTORS AND CARBON MONOXIDE (CO) DETECTORS

Question: Smoke detectors are installed in my property, but do I need to have CO detectors installed?

Answer: NYC local law now requires that the following occupancies which are protected by a fire alarm system to install CO detectors no later than 07/01/21 when such occupancy contains fuel burning equipment, an enclosed parking garage, or a loading dock:

Group A-1, such as theaters; symphony and concert halls; television and radio studios admitting an audience;

Group A-2, such as banquet halls, casinos, nightclubs, bars, restaurants, cafeterias and similar dining facilities (including associated commercial kitchens);

Group A-3, such as art galleries, bowling alleys, community halls, courtrooms, dance halls, exhibition halls, funeral parlors, gymnasiums (without spectator seating), indoor swimming pools/tennis courts (without spectator seating), lecture halls, libraries, museums, places of religious worship, waiting areas in transportation terminals, etc.;

Group B, such as ambulatory care facilities, animal hospitals, kennels and pounds, banks, barber and beauty shops, car wash, outpatient clinic, dry cleaning and laundries, educational occupancies for students above the 12th grade, electronic data processing, food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities not more than 2,500 square feet in area, laboratories, motor vehicle showrooms, print shops, professional services (architects, attorneys, dentists, physicians, etc.), radio and television stations, telephone exchanges, training and skill development not in a school or academic program (include, but not be limited to, tutoring centers, martial arts studios, gymnastics, and where not classified as a Group A occupancy) etc.;

Group M, such as department stores, drug stores, markets, gas stations, retail or wholesale stores, sales rooms, etc.

These occupancies listed above must check [1 RCNY §908-01](#) or consult with a Design Professional (e.g. PE or registered architect) to know where the CO detectors must be installed.

Question: Can I install smoke/CO alarms instead of installing smoke/CO detectors?

Answer:

It depends on the occupancy type of your commercial properties. You will know if you require smoke/CO detectors based on the NYC Building Code. **If your property is required to install smoke/CO detectors, you are prohibited from changing them to smoke/CO alarms. Altering the detectors into single-station alarms without connecting to the required fire alarm system may be subject to enforcement actions by the Fire Department.**

Question: What shall I do if I received a summon for not installing required smoke/CO detectors?

Answer: Refer to <https://www1.nyc.gov/assets/fdny/downloads/pdf/business/tips-fire-alarm-systems.pdf>

The basic steps: a) Hire a New York State licensed professional engineer to create a filing and drawings.
b) Obtain approval from Fire Alarm Plan Exam.
c) Hire a licensed installation company to install the devices, pre-test the devices, request an inspection.
d) Obtain approval from Fire Alarm Inspection Unit.

Question: Who can install the smoke and CO detectors?

Answer: The detectors are connected to a building's fire alarm system. They must be installed by electrical contractors licensed by NYC Department of Buildings and programmed by a S-97/S-98 Certificate of Fitness holder employed by a company approved to install fire alarm system in NYC.

The approved fire alarm company list can be found via the following link:

<https://www1.nyc.gov/assets/fdny/downloads/pdf/business/approved-companies-fire-alarm-system-inspection-testing-service.pdf>

Question: Who can maintain, test or clean smoke and CO detectors?

Answer: Smoke and CO detectors can be maintained, tested and cleaned by S-97/S-98 Certificate of Fitness holders. Smoke detectors can also be maintained/cleaned by F-78/S-78 Certificate of Fitness holders.

The approved smoke detector maintenance company list can be found via the following link:

<https://www1.nyc.gov/site/fdny/business/all-certifications/certificates-smoke-detector-maintenance.page>

Question: What are unwarranted/nuisance alarm? What might cause this type of alarm?

Answer:

An **UNWARRANTED ALARM** is an alarm that is the result of a defective condition or other cause when no danger may exist.

Common reasons for unwarranted alarms from a smoke detector include:

- Cooking combustion particles, e.g. from stove spills or broiling
- Excessive dust, mold or mildew build-up
- Heavy steam conditions within a closed room
- Ceiling paint or other wall coatings

Common reasons for unwarranted alarms from a CO detector include:

- Detector(s) located too close to a fuel-burning appliance.
- Vapors from the following household substances: paint, paint thinners, adhesives, hair spray, strong perfumes, plug-ins and other aerosol type air fresheners, and household cleaning solvents with strong odors such as pine.

Question: What are the consequences of unwarranted alarms?

Answer:

Unnecessary and unwarranted alarms may impact fire and life safety in many ways, such as diverting essential services from emergencies or posing an unnecessary risk to first responders, etc. They also cause business disruptions that can lead to loss of revenue, productivity and promote a negative public view of fire alarm systems. As the owner of an establishment, you are responsible for preventing these unwarranted alarms. If the smoke detectors are connected to a monitored fire alarm system, it is unlawful to transmit 2 or more unnecessary or unwarranted alarms in any three-month period and will be subject to **enforcement actions by the Fire Department.**

EMERGENCY PROCEDURES WHEN AN ALARM GOES OFF

Question: What should I do in case the fire alarm activates?

Answer:

1. Close the door to the room where the fire is and leave the establishment.
2. Be sure that EVERYONE leaves with you. Close, but do not lock, the door.
3. Alert EVERYONE on your way to the exit.
4. Use the nearest stairwell to exit the building. DO NOT USE THE ELEVATOR unless directed by the FDNY or the FLSD.
5. Call 911 once you reach a safe location. Do not assume the fire has been reported.
6. Meet the employees/members of your establishment at the predetermined location outside the building. Notify firefighters if you know that anyone is unaccounted for.

Question: What should I do if any CO alarm or detector activates?

Answer:

1. Immediately move to a fresh air location outdoors or by an open window or door.
2. Make sure everyone inside the space is accounted for.
3. Call 911 from a fresh air location and stay there until emergency personnel arrives.

OTHER QUESTIONS?

Questions regarding other related smoke or CO detectors, may be answered by calling 311; or emailing the FDNY at FDNY.BusinessSupport@fdny.nyc.gov