



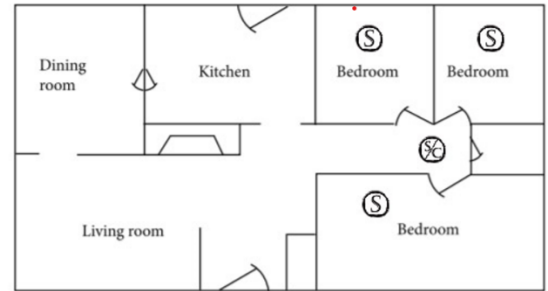
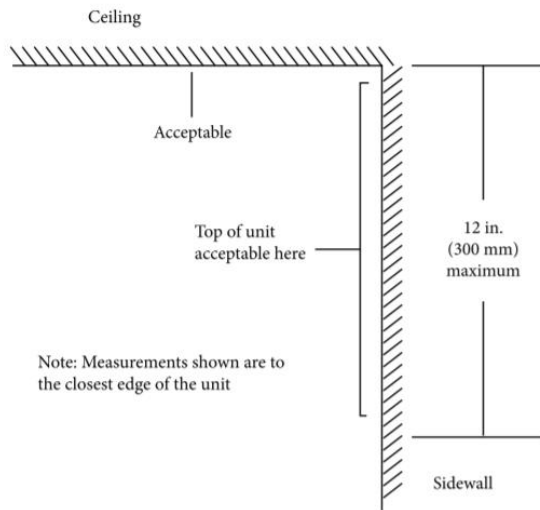
Smoke & Carbon Monoxide Detectors Installation in Residential Construction

1. Smoke alarms. Single- or multiple-station smoke alarms shall be installed and maintained, regardless of occupant load at all of the following locations:
 - i. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.
 - ii. In each room used for sleeping purposes.
 - iii. In each story within a dwelling unit, including basements and cellars but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.
2. **One and Two family dwellings:** shall be permitted to install 9v battery powered smoke alarms where required above.
3. **In multi-family dwellings (3 or 3 dwelling units):** where required above, smoke alarms shall be 110 volt w/ 9v battery backup. They shall also be interconnected throughout the building in such a manner that the activation of one alarm will activate all of the alarms in the individual unit.
4. **Five or more units:** It shall be mandatory for the builders, owner or owners of hospitals, hotels, motels, schools, convalescent homes, group and personal care homes of five or more residents, rooming and boarding homes of five or more residents, and any apartment building containing five or more apartment units, situated in the City limits to install a supervised automatic fire alarm system which shall be monitored 24 hours by an authorized monitoring company.

No person, company, business or organization shall use a supervised automatic alarm system without having applied for and been issued a current and valid alarm user permit. An annual permit fee shall be due and payable by June 1 of each year. There shall be no prorating of the initial fee though the permit has been applied for after June 1. Under no circumstances will fees be refunded. An alarm user permit shall be kept on the premises where the alarm system is located and shall be produced and displayed to any Bureau of Fire officer.

Smoke alarms should be installed according to NFPA 72 and the manufacturer's instructions. Heat and smoke rise, so smoke alarms should be installed on the ceiling or high on a wall to detect the first traces of smoke.

If a room has a pitched (slanted) ceiling, mount the unit near the ceiling's highest point, 4 to 12 inches (10 to 30.5 centimeters) away from the wall. If the room has an A-frame ceiling, mount the unit at least 4 to 12 inches (10 to 30.5 centimeters) away from the peak.



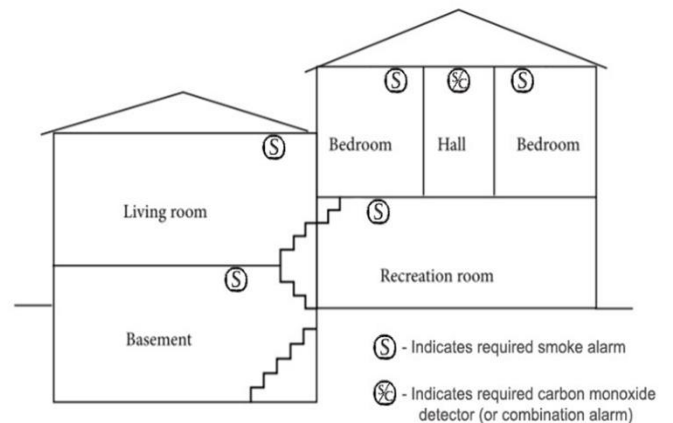
Wall-mounted smoke alarms should be installed so that the top of the alarm is not more than 12 inches (30.5 centimeters) from the ceiling.

Install basement smoke alarms close to the bottom of the stairs. Don't install an alarm at the top of basement stairs; dead air trapped near the closed door could prevent smoke from reaching the unit.

Some household environments can cause nuisance alarms or interfere with a smoke alarm's operation. Avoid placing alarms near a cooking appliance, a dusty area, a shower, or any area where the temperature drops below 40°F (4.5°C) or rises above 110°F (43°C).

Cooking fumes, steam, and automobile exhaust can result in nuisance alarms. Do not install alarms in bathrooms, kitchens, garages, attics, or unheated areas or near recessed ceiling areas, ceiling fans, furnaces, or furnace vents. Place alarms at least 3 feet (0.9 meter) horizontally from bathroom doors.

It's a good idea to have an experienced installer available, if possible, while your volunteers are in the field. Give volunteers a phone number to call your expert for advice on installation problems.



SECTION R315 CARBON MONOXIDE ALARMS

R315.1 General.

Carbon monoxide alarms shall comply with Section R315.

R315.1.1 Listings.

Carbon monoxide alarms shall be listed in accordance with UL 2034. Combination carbon monoxide and smoke alarms shall be listed in accordance with UL 2034 and UL 217.

R315.2 Where required.

Carbon monoxide alarms shall be provided in accordance with Sections R315.2.1 and R315.2.2.

R315.2.1 New construction.

For new construction, carbon monoxide alarms shall be provided in dwelling units where either or both of the following conditions exist.

1. The dwelling unit contains a fuel-fired appliance.
2. The dwelling unit has an attached garage with an opening that communicates with the dwelling unit.

R315.2.2 Alterations, repairs and additions.

Where alterations, repairs or additions requiring a permit occur, or where one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be equipped with carbon monoxide alarms located as required for new dwellings.

Exceptions:

1. Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck, is exempt from the requirements of this section.
2. Installation, alteration or repairs of plumbing or mechanical systems are exempt from the requirements of this section.

R315.3 Location.

Carbon monoxide alarms in dwelling units shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom.

R315.4 Combination alarms.

Combination carbon monoxide and smoke alarms shall be permitted to be used in lieu of carbon monoxide alarms.

R315.5 Power source.

Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and, where primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

Exceptions:

1. Carbon monoxide alarms shall be permitted to be battery operated where installed in buildings without commercial power.
2. Carbon monoxide alarms installed in accordance with Section R315.2.2 shall be permitted to be battery powered.

R315.6 Carbon monoxide detection systems.

Carbon monoxide detection systems shall be permitted to be used in lieu of carbon monoxide alarms and shall comply with Sections R315.6.1 through R315.6.4.

R315.6.1 General.

Household carbon monoxide detection systems shall comply with NFPA 720. Carbon monoxide detectors shall be listed in accordance with UL 2075.

R315.6.2 Location.

Carbon monoxide detectors shall be installed in the locations specified in Section R315.3. These locations supersede the locations specified in NFPA 720.

R315.6.3 Permanent fixture.

Where a household carbon monoxide detection system is installed, it shall become a permanent fixture of the occupancy and owned by the homeowner.

R315.6.4 Combination detectors.

Combination carbon monoxide and smoke detectors shall be permitted to be installed in carbon monoxide detection systems in lieu of carbon monoxide detectors, provided that they are listed in accordance with UL 2075 and UL 268.