

AU/ NZ SMOKE ALARM INSTALLATION REQUIREMENTS

IMPORTANT: This is a simplified document and provided as an indicative guide only and it is not to be relied upon in any way as a substitute for further research, investigation and legal advice. Always check against the latest NCC Building Code of Australia and any other local regulatory provisions.

WARNING: Smoke alarms cannot detect smoke through a closed door. It is recommended you install a smoke alarm in each sleeping area, hallway and living area and even the garage. Smoke alarms installed in hallways should be located between the bedrooms and the rest of the house. A more suitable alarm, such as a heat alarm, may be permitted in locations which can give spurious alarms if the atmosphere contains particles which obscure vision such as could occur in a private garage.

IMPORTANT: In a house with more than one level, install a smoke alarm on the ceiling at the head of the stairway connecting the levels. On those levels where sleeping areas are located, additional smoke alarms may be required between the sleeping areas and the path of exit.

IMPORTANT: Legislation provides for a minimum level of protection; however, owners and occupants may consider higher levels of protection than required.

Every State Fire Authority in Australia recommends that you install a Photoelectric type Smoke Alarm complying with AS 3786:2014

- Photoelectric smoke alarms are more sensitive at detecting slow smouldering fires, which may burn for hours before bursting into flame. This means a fire can be detected sooner and why they are recommended.
- Ionisation smoke alarms are typically less effective at detecting the early, smouldering stage of a fire. They are generally more suited to detecting fast flaming fires, which burn and spread quickly.

Only WORKING smoke alarms save lives: Smoke detectors are important to ensure the safety of the household. Proper installation and maintenance of these devices could prove to be lifesaving.

These tips will help to make sure the smoke alarm will perform as intended – when needed the most. Ensure after installation the household is made familiar with them:

- Smoke alarms should be tested every month by pressing and holding the test button (use the end of a broom handle if out of normal reach).
- A regular chirp indicates the battery power is low and the battery or smoke alarm needs replacing. Follow the Manufacturer's Instructions manual for specific guidance on changing the battery if the model incorporates a replaceable battery or action to be taken if smoke alarm incorporates a non-replaceable battery.
- Smoke alarms should be cleaned with a vacuum cleaner every 6 months to remove dust or particles around vents.
- Smoke alarms do not last forever and the sensitivity in all smoke alarms will reduce over time. All types of smoke alarms should be removed, replaced and disposed of at least every 10 years. A year of manufacture date is displayed on all smoke alarms. It is also recommended the date of installation be written on the base of the smoke alarm with a permanent marker for later reference.

New smoke alarm installation in a Class 1a building (house, duplex, villa or town house) at a glance

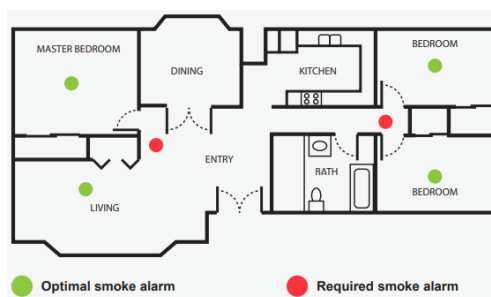
Note: For guidance only. Always check with the latest NCC Building Code of Australia and local regulations.

Type

- Photoelectric type, Ionisation type or Combination of the two [AS 3786:2014]
- If replacement - 240V mains powered with battery back-up or Non-removable 10-year battery powered type [only like for like]
- If leased or sold - 240V mains powered with battery back-up or Non-removable 10-year battery powered type
- If a new build - 240V mains powered with battery back-up [where consumer power is supplied to the building]

Alarm locations

- In any storey containing bedrooms, every corridor or hallway associated with a bedroom, or if there is no corridor or hallway, in an area between the bedrooms and the remainder of the building; and
- Each other storey not containing bedrooms.



Mounting

- On or near the ceiling in a position with special care to avoid a dead air space. If it is not practical to install the smoke alarm on the ceiling, then it may be installed on the wall between 300mm to 500mm below the ceiling.

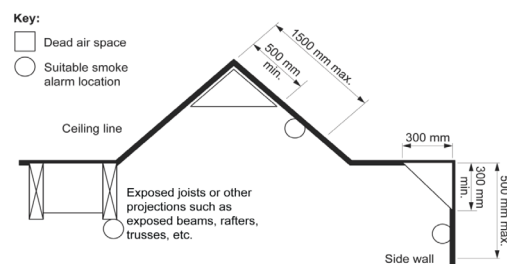


Diagram 1 – Installation of smoke alarms to avoid dead air space

Interconnection

- Recommended
- For New Builds or Renovated Dwellings constructed on an application for a building permit made after 01-05-2015 there is a requirement under the National Construction Code [NCC] - Building Code of Australia [BCA] that where there is more than one alarm, smoke alarms must be interconnected.

Further information

<https://esa.act.gov.au/be-emergency-ready/smoke-alarms>

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Smoke alarm installation in a Class 1a building (house, duplex, villa or town house) at a glance

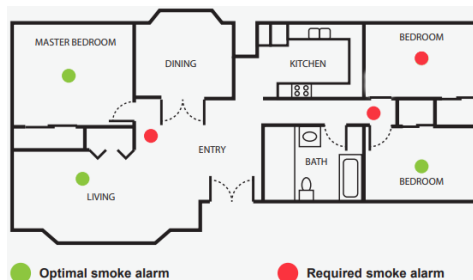
Note: For guidance only. Always check with the latest NCC Building Code of Australia and local regulations.

Type

- Photoelectric type (AS 3786:2014)
- If replacement - 240V mains powered with battery back-up or Non-removable 10-year battery powered type (only like for like)
- If leased or sold - 240V mains powered with battery back-up or Non-removable 10-year battery powered type
- If movable dwelling such as caravans or temporary accommodation (including safari-style tents) - 240V mains powered with battery back-up (where consumer power is supplied to the building)
- If a new build - 240V mains powered with battery back-up (where consumer power is supplied to the building)

Alarm locations

- In any storey containing bedrooms, every corridor or hallway associated with a bedroom, or if there is no corridor or hallway, in an area between the bedrooms and the remainder of the building;
- Inside any room where someone sleeps with the door closed;
- Each other storey not containing bedrooms; and
- For multilevel install an additional alarm in the stairway between each level.



Mounting

- On or near the ceiling in a position with special care to avoid a dead air space. If it is not practical to install the smoke alarm on the ceiling, then it may be installed on the wall between 300mm to 500mm below the ceiling.

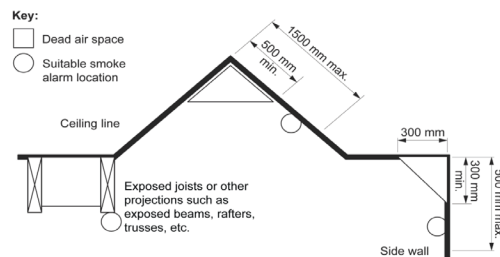


Diagram 1 – Installation of smoke alarms to avoid dead air space

Interconnection

- Recommended
- For New Builds or Renovated Dwellings constructed on an application for a building permit made after 01-05-2015 there is a requirement under the National Construction Code (NCC) - Building Code of Australia (BCA)

Further information

<https://pfes.nt.gov.au/fire-and-rescue-service/fire-safety/smoke-alarms>

AU/ NZ SMOKE ALARM INSTALLATION REQUIREMENTS

Smoke alarm installation in a Class 1a building [house, duplex, villa or town house] at a glance

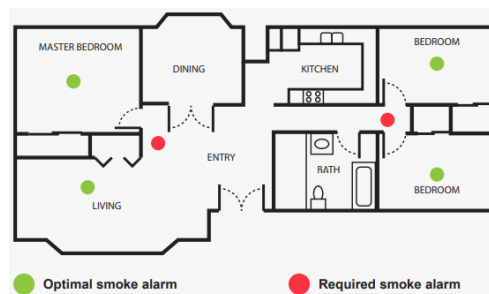
Note: For guidance only. Always check with the latest NCC Building Code of Australia and local regulations.

Type

- Photoelectric type, Ionisation type or Combination of the two [AS 3786:2014]
- If replacement - 240V mains powered with battery back-up or Non-removable 10-year battery powered type [only like for like]
- If leased or sold - 240V mains powered with battery back-up or Non-removable 10-year battery powered type
- If a new build - 240V mains powered with battery back-up [where consumer power is supplied to the building]

Alarm locations

- This includes owner occupied homes, rental properties, relocatable homes, caravans and camper-vans or any other residential building where people sleep.
- In any storey containing bedrooms, every corridor or hallway associated with a bedroom, or if there is no corridor or hallway, in an area between the bedrooms and the remainder of the building; and
- Each other storey not containing bedrooms.



Mounting

- On or near the ceiling in a position with special care to avoid a dead air space. If it is not practical to install the smoke alarm on the ceiling, then it may be installed on the wall between 300mm to 500mm below the ceiling.

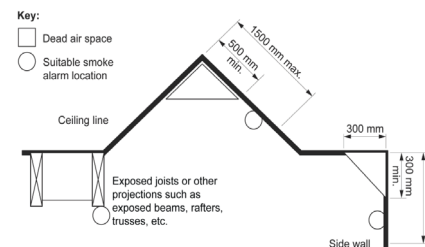


Diagram 1 – Installation of smoke alarms to avoid dead air space

Interconnection

- Recommended
- For New Builds or Renovated Dwellings constructed on an application for a building permit made after 01-05-2015 there is a requirement under the National Construction Code [NCC] - Building Code of Australia [BCA]

Further information

<https://www.fire.nsw.gov.au/>

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Smoke alarm installation in a Class 1a building (house, duplex, villa or town house) at a glance

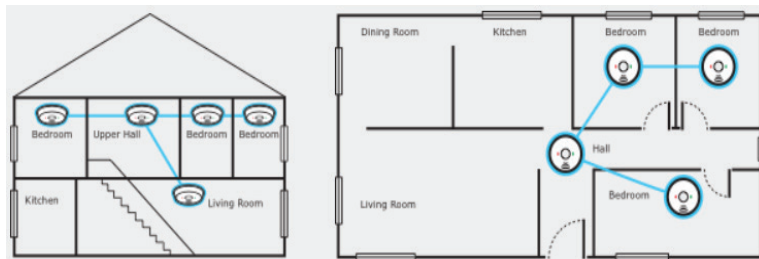
Note: For guidance only. Always check with the latest NCC Building Code of Australia and local regulations. This includes the Queensland Government Building Fire Safety Regulation 2008.

Type Photoelectric type (AS 3786:2014) and not also contain an ionisation sensor:

- ✓ if replacement from 01-01-2017 (existing smoke alarms must be less than 10 years old and operate when tested)
- ✓ for all existing private homes, townhouses and units from 01-01-2027
- If replacement - 240V mains powered with battery back-up or Non-removable 10-year battery powered type (only like for like)
- If leased or sold - 240V mains powered with battery back-up or Non-removable 10-year battery powered type
- If new build or substantial renovation - 240V mains powered with battery back-up

Alarm locations

- On each storey;
- In each bedroom;
- In hallways that connect bedrooms and the rest of the dwelling;
- If there is no hallway, between the bedroom and other parts of the storey; and
- If there are no bedrooms on a storey, at least one smoke alarm must be installed in the most likely path of travel to exit the dwelling.



Mounting

- On or near the ceiling in a position with special care to avoid a dead air space; or
- if it is not practical to install the smoke alarm on the ceiling, then it may be installed on the wall between 100mm and 300mm from the ceiling and more than 300mm from the corner of 2 walls; and
- if installed on a ceiling that slopes, in an area of the ceiling that is between 500mm and 1,500mm from the apex of the ceiling; and
- must not be within
 - i. 300mm of a light fitting; and
 - ii. 300mm of a corner of the ceiling and wall if installed on a ceiling; and
 - iii. 400mm of an opening from which air is supplied or forced air ventilation; and
 - iv. 400mm of the blades of a ceiling fan.

Interconnection

Where there is more than one alarm, smoke alarms must be interconnected.

- Mandatory if new build or substantial renovation from 01-01-2017
- Mandatory if leased or sold from 01-01-2022
- Mandatory for all dwellings from 01-01-2027

Further information

<https://www.qfes.qld.gov.au/prepare/fire/smoke-alarms>

Smoke alarm installation in a Class 1a building (house, duplex, villa or town house) at a glance

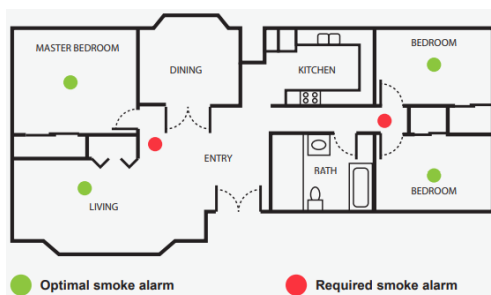
Note: For guidance only. Always check with the latest NCC Building Code of Australia and local regulations.

Type

- Photoelectric type, Ionisation type or Combination of the two (AS 3786:2014)
- If replacement - 240V mains powered with battery back-up or Non-removable 10-year battery powered type (only like for like)
- If leased or sold - 240V mains powered with battery back-up or Non-removable 10-year battery powered type
- If a new build - 240V mains powered with battery back-up (where consumer power is supplied to the building)

Alarm locations

- In any storey containing bedrooms, every corridor or hallway associated with a bedroom, or if there is no corridor or hallway, in an area between the bedrooms and the remainder of the building; and
- Each other storey not containing bedrooms.



Mounting

- On or near the ceiling in a position with special care to avoid a dead air space. If it is not practical to install the smoke alarm on the ceiling, then it may be installed on the wall between 300mm to 500mm below the ceiling.

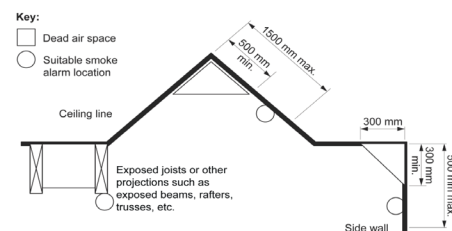


Diagram 1 – Installation of smoke alarms to avoid dead air space

Interconnection

- Recommended
- For New Builds or Renovated Dwellings constructed on an application for a building permit made after 01-05-2015 there is a requirement under the National Construction Code (NCC) - Building Code of Australia (BCA) that where there is more than one alarm, smoke alarms must be interconnected.

Further information

<https://www.sa.gov.au/topics/planning-and-property/owning-a-property/smoke-alarms>

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Smoke alarm installation in a Class 1a building (house, duplex, villa or town house) at a glance

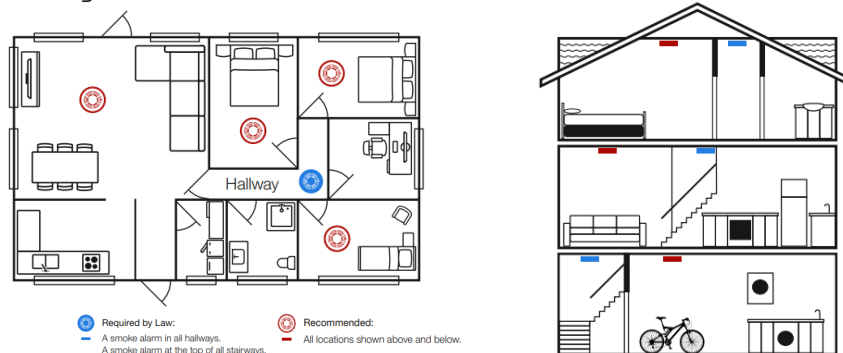
Note: For guidance only. Always check with the latest NCC Building Code of Australia and local regulations.

Type

- Photoelectric type, Ionisation type or Combination of the two (AS 3786:2014)
- If replacement - 240V mains powered with battery back-up or Non-removable 10-year battery powered type (only like for like)
- If leased or sold - 240V mains powered with battery back-up or Non-removable 10-year battery powered type
- If a new build - 240V mains powered with battery back-up (where consumer power is supplied to the building)

Alarm locations

- In each sleeping area (bedroom), hallway and living area
- For multi-level homes each sleeping area (bedroom), hallway and living area and on the ceiling at the top of the stairway connecting levels



Mounting

- On or near the ceiling in a position with special care to avoid a dead air space. If it is not practical to install the smoke alarm on the ceiling, then it may be installed on the wall between 300mm to 500mm below the ceiling.

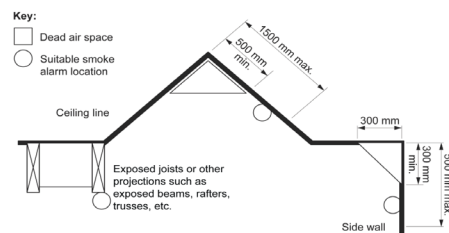


Diagram 1 – Installation of smoke alarms to avoid dead air space

Interconnection

- Recommended
- For New Builds or Renovated Dwellings constructed on an application for a building permit made after 01-05-2015 there is a requirement under the National Construction Code (NCC) - Building Code of Australia (BCA) that where there is more than one alarm, smoke alarms must be interconnected.

Further information

<http://www.fire.tas.gov.au/Show?pageId=colSmokeAlarm>

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Smoke alarm installation in a Class 1a building (house, duplex, villa or town house) at a glance

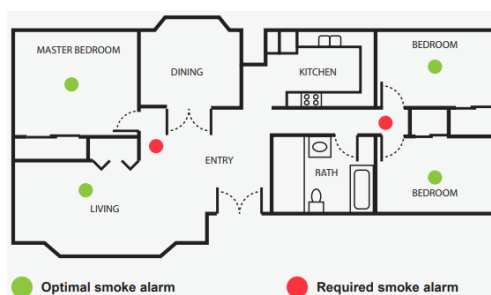
Note: For guidance only. Always check with the latest NCC Building Code of Australia and local regulations.

Type

- Photoelectric type, Ionisation type or Combination of the two [AS 3786:2014]
- 240V mains powered with battery back-up [if constructed after 01-08-1997 or a substantial renovation and a consumer mains source is supplied to the building]
- 240V mains powered with battery back-up or Non-removable 10-year battery powered type [if constructed before 01-08-1997]

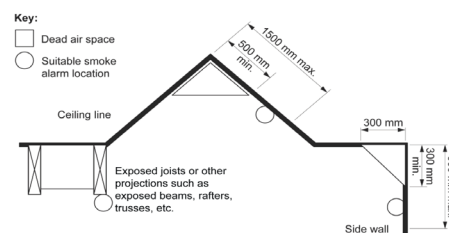
Alarm locations

- In any storey containing bedrooms, every corridor or hallway associated with a bedroom, or if there is no corridor or hallway, in an area between the bedrooms and the remainder of the building; and
- Each other storey not containing bedrooms.



Mounting

- On or near the ceiling in a position with special care to avoid a dead air space. If it is not practical to install the smoke alarm on the ceiling, then it may be installed on the wall between 300mm to 500mm below the ceiling.



Interconnection

- Recommended
- Mandated for New builds [after 01-05-2014] or homes which have undergone a major renovation or extension where there is more than one smoke alarm

Further information

<https://www.frv.vic.gov.au/smoke-alarms>

Smoke alarm installation in a Class 1a building (house, duplex, villa or town house) at a glance

Note: For guidance only. Always check with the latest NCC Building Code of Australia and local regulations.

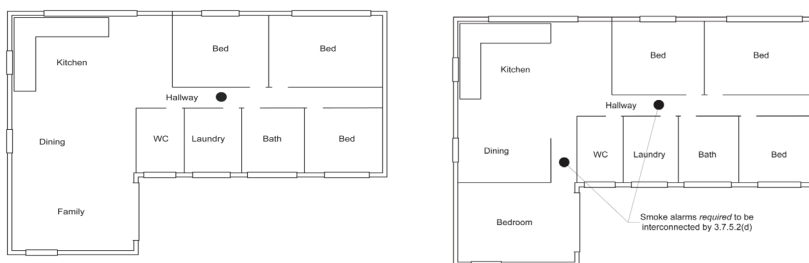
Type

- Photoelectric type, Ionisation type or Combination of the two (AS 3786:2014)
- 240V mains powered with battery back-up (Non-removable 10-year battery powered type may only be used if mains power is not connected to the building or there is no hidden space to run the necessary wiring (e.g. concrete ceiling))

Note: It is unlawful to install battery powered smoke alarms just because it is more convenient to do so. In a multi-level home where it is permitted to use a battery powered smoke alarm because the ground floor is concrete, the owner may not install a battery powered alarm on the upper floor ceiling where there is sufficient space to run the electrical wiring. The use in other circumstances must be approved by local government.

Alarm locations

- In any storey containing bedrooms, every corridor or hallway associated with a bedroom, or if there is no corridor or hallway, in an area between the bedrooms and the remainder of the building; and
- Each other storey not containing bedrooms.



Mounting

- On or near the ceiling in a position with special care to avoid a dead air space. If it is not practical to install the smoke alarm on the ceiling, then it may be installed on the wall between 300mm to 500mm below the ceiling.

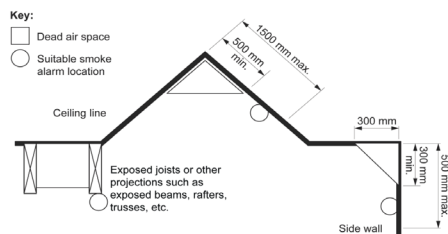


Diagram 1 – Installation of smoke alarms to avoid dead air space

Interconnection

- Recommended
- For New Builds or Renovated Dwellings constructed on an application for a building permit made after 01-05-2015 there is a requirement under the National Construction Code (NCC) - Building Code of Australia (BCA) that where there is more than one alarm, smoke alarms must be interconnected.

Further information

<https://www.dfes.wa.gov.au/site/fire-in-the-home/smoke-alarms.html>

Smoke alarm installation in a household unit

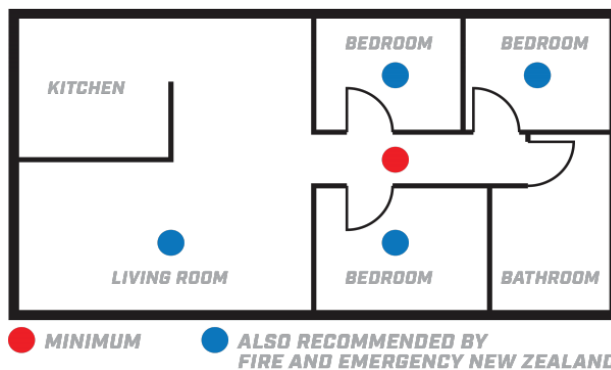
Note: For guidance only. Always check with the New Zealand Building Code and local regulations.

Type

- Photoelectric type, Ionisation type or Combination of the two [AS 3786:1993; ISO 12239:2003 or BS EN 14604:2005]
- 240V mains powered with battery back-up or Non-removable 10-year battery powered type

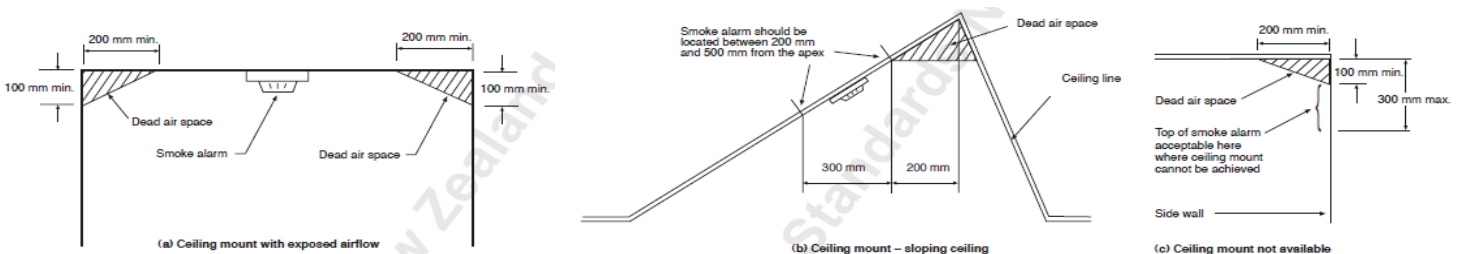
Alarm locations

- In multi-storey units, there shall be at least one smoke alarm on each level within the household unit.
- On levels containing the sleeping spaces, the smoke alarms shall be located either:
 - i) In every room where a person sleeps, or
 - ii) Within 3.0 m of every sleeping space [bedroom] door. In this case, the smoke alarms must be audible to sleeping occupants on the other side of the closed doors.
- In all cases, so that the sound pressure level complies with that specified in NZS 4514.



Mounting

- Smoke alarms shall be installed on or near the ceiling. The placement shall be in accordance with NZS 4514.



Interconnection

- Recommended [the interconnection of individual smoke alarms should be considered if audibility is a problem].

Further information

<https://fireandemergency.nz/home-and-community-fire-safety/smoke-alarms/>