
HOME FIRE ALARM DEVICES

Installation of HFADs within residential premises

1. Is installation of HFAD(s) mandatory for all residential premises?

The installation of HFAD(s) is mandatory for new residential premises, as well as existing residential premises carrying out fire safety works¹, with plans submitted by Qualified Persons to SCDF (or to any other government agencies² e.g. BCA, HDB) on or after 1 June 2018.

It is **not** mandatory to install the HFAD(s) for **existing** residential premises not carrying out fire safety works. Nonetheless, existing homeowners are strongly encouraged to install HFAD(s) for their own safety.

2. Where can I buy a HFAD? What are the key features of HFAD that I should note during purchase?

You can find a list of retailers at this website <https://www.scdf.gov.sg/files/HFAD>

When purchasing a HFAD, buyers should ensure that the device has the following features:

- a) Operate on smoke detection technology³ alone, or any multi-sensor⁴ detector with smoke detection capability;
- b) Indicator lights to inform users on the status/condition of the device;
- c) Temporary silence/Reset feature to address false alarms;
- d) Test button to allow the device to be tested and checked periodically;
- e) Sounder to alert occupants in the home;
- f) Devices powered by a battery (i.e. the battery lasts at least 10 years and will show an audio/visual indication when battery level is low).

¹ Fire safety works are addition and alteration (A/A) works such as installation/re-location of fire doors, installation of roof over open balconies, and works involving walls that separate the residential premises from common areas, etc. If homeowners/residents are unsure of whether their proposed A/A works are considered fire safety works, they can contact SCDF at 1800 286 5555 or 68481730 for more information.

² Plan submission to SCDF exempted under the Fire Safety (Exemption) Order, but fire safety works require plan submission to other government agencies.

³ Smoke detectors are preferred over heat detectors in view of their higher sensitivity which would allow them to detect a fire at a faster rate.

⁴ This refers to a detector with multiple sensors built into the device eg. a smoke and carbon monoxide (CO) detector.

Frequently Asked Questions (FAQs)

3. How much does a HFAD cost?

SCDF recommends the use of HFADs that operate on a built-in battery that has a 10-year life span. Based on market rates, such HFADs cost around \$50 to \$80 each, excluding installation costs.

HFADs powered by dry-cell batteries may cost less at around \$40 or less. However these batteries are not long-lasting and may need to be replaced frequently.

Do note that **prices may vary** among different retailers, and are dependent on the features that come with each device.

4. How many HFADs does a house require? Where should HFADs be installed?

The table below states the minimum number of HFADs required for different home types, as well as the locations in which the detectors are to be installed under the new requirements in the Fire Code for new residential homes and existing homes conducting fire safety works from 1 June 2018 onwards.

Home type	Number and location of HFAD
Single-storey homes: <ul style="list-style-type: none">HDB flatsApartments/CondominiumSingle storey landed dwellings	<ul style="list-style-type: none">Minimum 1 HFAD (smoke detector)Installed along circulation area⁵ / escape route, i.e. living room, corridorOptional: Additional HFADs can be installed in other spaces for enhanced protection.
Multi-storey homes: <ul style="list-style-type: none">Landed/Non-landed dwellingsHDB flatsApartments/Condominiums	<ul style="list-style-type: none">Minimum 1 HFAD (smoke detector) per storeyFor storeys with circulation area > 70m², at least 2 HFADs (smoke detectors) need to be installed on that storey.Installed along circulation area / escape route i.e. living room, corridor, and/or staircase landingOptional: Additional HFADs can be installed in other spaces for enhanced protection.

⁵ Circulation area refers to common areas such as living room, corridors, dining rooms or staircase landings. It excludes spaces such as bedrooms, storerooms or bathrooms.

5. Is there a need for Qualified Persons (QPs) to submit plans to SCDF for installation of a HFAD?

There is no need for Qualified Persons such as Registered Architects or Professional Engineers to submit plans to SCDF for the **voluntary installation** of HFAD(s).

However, if QPs are submitting plans to SCDF or other Government agencies for other fire safety works carried out for residential homes, then QPs are required to indicate the locations of the HFADs on the submitted plans.

Use and maintenance of HFADs in residential premises

6. Who is responsible for maintaining the HFAD and ensuring that it is kept in good working condition?

Home owners and occupiers are responsible for ensuring that all fire safety provisions within their homes, including HFADs, fire extinguishers and fire-rated doors, are kept in good working condition.

7. What type of maintenance is required?

HFAD(s) with built-in batteries can last for around 10 years. HFADs powered by dry-cell batteries have a shorter lifespan and the batteries will need to be replaced at least once a year.

Home owners should test the HFADs regularly to ensure they are working. HFADs should be replaced at the end-of-life date as recommended by the manufacturer.

8. How should residents prevent false alarms by the HFAD?

There are internationally recognised standards on the sensitivity of HFADs⁶. Generally, cooking or burning of religious paraphernalia will not cause false alarms unless these activities are carried out in close proximity to the HFADs. HFADs should be placed along key escape routes such as corridors or in the living room.

If there are frequent false alarms, residents could consider moving the HFAD away from locations with frequent presence of smoke and fumes (e.g. cooking stoves or praying altars). Residents can also contact the HFAD supplier to ascertain if the device is functioning properly.

9. What should residents do when the HFAD alarm sounds within their unit or their neighbour's unit?

If the HFAD emits an alarm, residents should:

- a) Check for the presence of smoke or fire within the home.
- b) If a fire is detected, extinguish it using a fire extinguisher. If the fire is spreading quickly, evacuate everyone from the home and call 995 to report the fire.
- c) If there is no smoke or fire, it could be a false alarm due to a malfunction or inadvertent activation (e.g. smoke from cooking).
- d) If it is certain that there is no emergency within the home, the device can be reset by pressing the "Silence/Reset" button.

10. How will the resident know if the HFAD needs to be replaced?

A HFAD should be replaced if:

- The HFAD indicates that the battery is running low.
- The HFAD is not functioning properly upon pressing the 'Test' function.
- The HFAD has detected high volumes of smoke and the sensing chamber is contaminated⁷. This typically results in failed attempts to silence the HFAD. Residents should contact the HFAD supplier when in doubt.

⁶ Under new Fire Code requirements which come into effect from 1 June 2018, HFADs installed are to comply with any one of these standards: (1) EN 14604 – Smoke alarm devices, or (2) UL 217 – Standard for smoke alarms, or (3) AS 3786 – Smoke alarms using scattered light, transmitted light, or ionization.

⁷ For instance, if multiple attempts at silencing the HFAD alarm fails, this could possibly indicate a dirty sensing chamber repeatedly triggering the HFAD.

11. Are there HFAD(s) which are suitable for occupants with vision or hearing problems?

There are several HFAD models available in the market that cater to different user needs and requirements. Residents who have vision and hearing problems may consider models with additional features such as alerts via vibrating pads or visual alarms.

HFAD assistance scheme for HDB public rental flats

12. Who is eligible for the HFAD assistance scheme?

Households staying in flats let out under HDB's Public Rental scheme will be eligible. Tenants will not be required to pay for the installation. As with all other rental flat fixtures, tenants will be responsible for keeping the HFADs in working order.

13. How many HFADs are each eligible household entitled to?

Each eligible household will qualify for one free HFAD, including installation. Residents who would like to have more than one HFAD installed can make arrangements with the vendor. Additional HFADs will be chargeable.

14. When will this HFAD assistance scheme commence and how long would it take to install HFADs in all eligible households?

The installation of the HFADs will be phased to prioritise households with at least one elderly aged 60 and above. Installation will commence in 2018, and is expected to be completed by 2021. Residents will be notified before the HFAD installation works commence.