



MODEL TRFSD240I

INSTALLATION AND USER MANUAL

TRADEFORCE SMOKE ALARM IONISATION DESIGN

240VAC MAINS POWERED SINGLE STATION AND/OR INTERCONNECTABLE (24 UNITS) IONISATION SMOKE ALARM. 9V REPLACEABLE BATTERY BACKUP. TEST AND HUSH CONTROL AND LOW BATTERY INDICATION.

IMPORTANT: READ ALL INSTRUCTIONS BEFORE INSTALLATION.

NO USER REPLACEABLE PARTS INSIDE THIS SMOKE ALARM.

WARNING: Disconnecting smoke alarm from mounting base and/or removing the 9V battery will render this smoke alarm inactive.

SPECIFICATION

ELECTRICAL RATING: 240VAC 50Hz, 80mA per alarm and interconnectable to 24 alarms.

WARNING: THIS SMOKE ALARM MUST ONLY BE WIRED TO A 240Vac 50Hz SINE WAVE CURRENT SUPPLY.

THE SMOKE ALARM USES AN EXTREMELY SMALL AMOUNT OF A RADIOACTIVE ELEMENT IN THE DUAL IONISATION CHAMBER.

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1. RECOMMENDED LOCATIONS OF ALARMS

- 1.1 Locate an alarm for each separate sleeping area in the immediate vicinity of the bedrooms. Try to monitor the exit path as the bedrooms are usually farthest from an exit. If more than one sleeping area exit, locate additional alarms in each sleeping area in the immediate vicinity of the bedrooms.
- 1.2 Locate additional alarms to MONITOR any stairway as stairways act like chimneys for smoke and heat.
- 1.3 Locate at least one alarm on every floor level.
- 1.4 Locate an alarm in every room where a smoker sleeps.
- 1.5 Locate an alarm in every room where electrical appliances are operated (i.e. portable heaters or humidifiers).
- 1.6 Locate an alarm in every room where someone sleeps with the door closed. The closed door may prevent an alarm not located in that room from waking the sleeper.
- 1.7 Smoke, heat and other combustion products rise to the ceiling and spread horizontally. Mounting the alarm on the ceiling in the center of the room places it closest to all points in the room. Ceiling mounting is preferred in ordinary residential construction.
- 1.8 For mobile home installation select location carefully to avoid thermal barrier that may form at the ceiling. For more details see Mobile Home Installation (Section 2).
- 1.9 When mounting alarms on the ceiling locate it at least 300mm away from the side wall and 300mm away from any corner. (see diagram)
- 1.10 When mounting alarms on a wall, use the inside wall. The recommended position is between 300mm and 500mm off the ceiling. (see diagram and section 6 for mounting orientation).

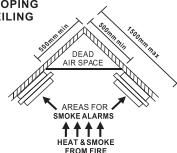
NOTE: The performance of smoke alarms mounted on walls is unpredictable and this mounting position is not recommended when ceiling mounting can be implemented.

1. RECOMMENDED LOCATIONS OF ALARMS

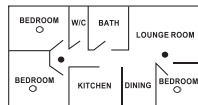
- 1.11 When mounting the alarm at the apex of a sloping ceiling it should be located at least 500mm away from the apex but should not exceed 1500mm (see diagram).
- 1.12 Locate smoke alarm at both ends of a bedroom hallway or large room if the hallway or room is more than 9m long.
- 1.13 Do not locate smoke alarms in kitchen areas due to potential nuisance alarms from cooking fumes. It is recommended to use a Photoelectric type of smoke alarm in these instances.

INSTALLATION OF SMOKE ALARM

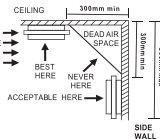
APEX OF
SLOPING
CEILING



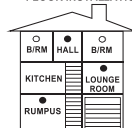
SINGLE FLOOR



CEILING/ WALL JUNCTION



TYPICAL MULTIPLE
FLOOR INSTALLATION



- Smoke alarms for minimum protection.
- Smoke alarms for additional protection.

IMPORTANT: INCORRECT ORIENTATION OF SMOKE ALARM MAY DECREASE OPERATIONAL EFFECTIVENESS

2. MOBILE HOME INSTALLATION

- 2.1 Modern mobile homes have been designed and insulated to be energy efficient. Install smoke alarms as recommended (refer to Section 1: Recommended locations).
- 2.2 In older mobile homes that are not well insulated compared to present standards, extreme heat or cold can be transferred from the outside through poorly insulated walls and roof. This may create a thermal barrier which can prevent smoke from reaching a smoke alarm mounted on the ceiling. In such units, install smoke alarm on inside partition between 300mm and 500mm from the ceiling.
- 2.3 If you are not sure about the insulation in your mobile home, or if you notice the walls and ceilings are either hot or cold, install alarm on an inside wall. For minimum protection, install one alarm close to the bedrooms.

For additional protection, see **SINGLE FLOOR PLAN**.

NOTE: TEST YOUR SMOKE ALARM OPERATION AFTER MOBILE HOME VEHICLE HAS BEEN IN STORAGE, BEFORE EACH TRIP AND AT LEAST ONCE WEEK DURING USE.

3. AVOID THESE LOCATIONS

- 3.1 Do not locate your alarm in the garage - products of combustion are present when you start your automobile. Use Lifesaver Heat Alarm (LIFHA240) in this location.
- 3.2 Do not locate your alarm in front of forced air supply ducts used for heating and air conditioning and other high air flow areas.
- 3.3 Do not locate your alarm less than 500mm from the peak of an "A" frame type ceiling.
- 3.4 Do not locate your alarm in areas where temperatures may fall below 5°C or rise above 45°C, or in humidity higher than 85% as these conditions may reduce battery life.

3. AVOID THESE LOCATIONS

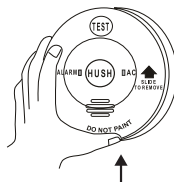
- 3.5 Avoid dusty areas, dust particles may cause smoke alarm to false alarm or fail to alarm. Use Lifesaver Heat Alarm(LIFHA240) in this location to avoid false alarms.
- 3.6 Avoid very humid areas or near a bathroom, moisture can cause false alarm.
- 3.7 Avoid insect-infested areas.
- 3.8 Do not locate alarm within 0.9m of the following: the door to a kitchen, the door to a bathroom containing a tub or shower, ceiling or whole house ventilating fans, or other high flow areas.
- 3.9 Avoid locating near fluorescent lights or other electrical equipment. Electronic magnetic interferences or “noise” may cause nuisance alarms or chirping.
- 3.10 Smoke alarms are not to be used with detector guards unless the combination (alarm and guard) has been evaluated and found suitable for that purpose.

4. FALSE ALARMS

- 4.1 This smoke alarm is designed to minimize false alarms. Smoking will not normally set off the alarm unless smoke is blown directly into the alarm.
- 4.2 Combustion particles from cooking may set off the alarm if the alarm is located close to the kitchen cooking surface.
- 4.3 Large quantities of combustion particles are generated from spills and over-boil.
- 4.4 An alarm with a Hush® Control device is preferable near a kitchen environment for this reason.
- 4.5 If the alarm does sound, check for fire first. If a fire is discovered, escape quickly and call the Fire Brigade. If no fire is present, check to see if one of the reasons listed above may have caused the alarm.

5. HOW TO REMOVE SMOKE ALARM FROM BASE PLATE

- 5.1 Look for 'SLIDE TO REMOVE'.
- 5.2 Remove Tamper Locking Screw if installed.
- 5.3 Push firmly towards arrow until smoke alarm unhinges from base plate.
- 5.4 To re-install smoke alarm follow FIGURE 2 procedure 1 to 3. See page 9.



Slide Smoke Alarm cover in direction of arrow (as shown on cover) to remove from base plate

Tamper Locking Screw

6. INSTALLATION

WARNING: THIS SMOKE ALARM MUST BE INSTALLED BY QUALIFIED (LICENSED) ELECTRICIANS ONLY.

- 6.1 **Wiring Instructions:**
 - 6.1.1 In the interests of safety, this smoke alarm and all wiring must be installed by a licensed electrician in accordance with the relevant requirements of the SAA Wiring Rules - AS3000.
 - 6.1.2 DO NOT connect this smoke alarm on the base plate without the presence of 240V mains power.
 - 6.1.3 This Smoke Alarm can only interconnect with TRADEFORCE TRFSD240I, TRFSD240PE and TRFSD240PERL smoke alarms. Interconnection with other brands may cause damage or result in a shock or fire risk and void warranty. (Check with manufacturer).
 - 6.1.4 Due to "noise" from electromagnetic interference, up to 24 units of smoke alarms and compatible products may be interconnected.

6. INSTALLATION

- 6.1.5 There are five terminals in the supply terminal block, marked 9V, A, SW, N, LOOP. It is important that the alarm be wired correctly to ensure correct operation. Incorrect wiring to the Smoke Alarm will damage the unit and void the warranty.
- 6.1.6 A total maximum of 250 meters (820 feet) of wire can be used in interconnecting smoke alarms.
- 6.1.7 All final sub-circuit conductors including the signal conductor must be a minimum size of 1mm² with 250V grade insulation.
- 6.1.8 Interconnected Smoke Alarms must be connected to the same final subcircuit.
- 6.1.9 Do not use any wire that could later be confused with the normal house wires for the interconnect wire. For example, green/yellow earth wire.
- 6.1.10 Do not connect AC power wires to SW interconnect terminal. These will damage smoke alarms.
- 6.1.11 Do not connect the SW interconnect wire to any device, except the SW interconnect terminal of smoke alarm. Otherwise, smoke alarm will be damaged.
- 6.1.12 Switch wire (SW) only can drive the isolation relay RK10A/9 and /or smoke alarms.
- 6.1.13 Do not connect 9V wire to AC power or SW interconnect terminal. These may damage smoke alarms.
- 6.1.14 Smoke alarms should be interconnected only within the confines of a single family living unit. If smoke alarms are interconnected between different units, there may be excessive nuisance alarms. Residents may not be aware that smoke alarms are being tested or that it is a nuisance alarm caused by cooking, etc.

6. INSTALLATION

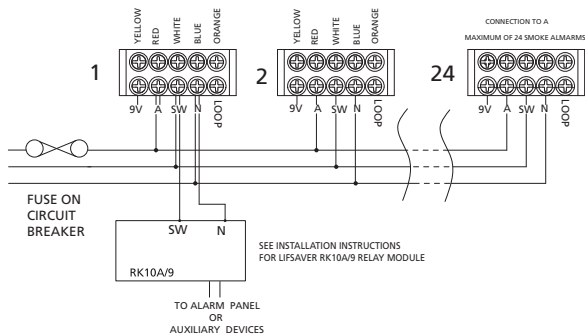
6.1.15 Terminals at back of mounting base are marked and coloured as follows:

MARKINGS

(Yellow)	9V	9Vdc POSITIVE POWER SOURCE
(Red)	A	ACTIVE
(White)	SW	SWITCH WIRE (FOR INTERCONNECTION ONLY)
(Blue)	N	NEUTRAL
(Orange)	LOOP	DEAD TERMINAL

WARNING: Connecting the Switch wire terminal to any other supply conductor may result in damage to the alarm, failure to operate or shock hazard and void the warranty of the alarm.

EXAMPLE OF MULTIPLE ALARM WIRING / ISOLATION UNIT WIRING



6. INSTALLATION

Note: For interconnection of smoke alarms to Fire Panel or Auxiliary devices, use only LIFESAVER Isolation Relay Model RK10A/9.

- 6.1.16 This Smoke Alarm can be interconnectable only with other TRFSD240I, TRFSD240PE and TRFSD240PERL models of Smoke Alarms; Interconnection with other brands may cause damage or result in a shock or fire risk.
- 6.1.17 When interconnected all Smoke Alarms will sound upon activation.
- 6.1.18 **WARNING: This alarm cannot be operated from power derived from a square wave, modified square wave or modified sine wave inverter. These type of inverters are sometimes used to supply power to the structure in off grid installations, such as solar or wind derived power sources. These power sources produce high peak voltages that will damage the alarm.**
- 6.1.17 PSA recommend the smoke alarms to be installed on its own subcircuit to avoid false alarms and nuisance chirping that may be caused by electromagnetic interferences from other electrical equipment.

6.2 Mounting Instructions:

- 6.2.1 Separate Smoke Alarm from mounting base by sliding cover (in direction of arrow) with one hand on the back of the mounting base and one hand sliding Smoke Alarm(See Fig. 1).
- 6.2.2 Connect supply cable to terminal block and fix terminal cover.
- 6.2.3 Align and slide smoke alarm up onto mounting base (Fig. 2) then slide in the reverse direction of arrow to ensure proper connection.
- 6.2.4 Switch on power and check the green light on alarm cover. It should be lit when mains power is switched on indicating that the smoke alarm is properly connected to the mounting base.
- 6.2.5 Secure Tamper Locking Pin (supplied) to smoke alarm.
- 6.2.6 Test alarm by pressing Test button.

6. INSTALLATION

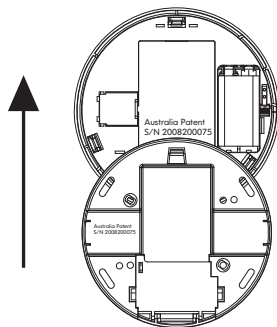


Figure 1: To remove smoke alarm

Slide smoke alarm carefully away from the base plate to remove the smoke alarm.

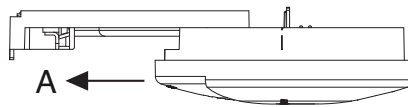


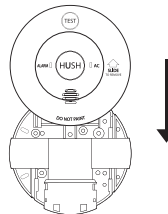
Figure 2: To connect smoke alarm

- 1 Place smoke alarm in line with the base plate.
- 2 Push smoke alarm towards connector (A). Ensure the smoke alarm slides fully into the connector.
- 3 Green AC Power light will come on when connected to mains.

6. INSTALLATION

Figure 3: Wall mounting smoke alarm

For wall mounting, the connector must be at the bottom. Ensure “SLIDE TO REMOVE” arrow on the cover is pointing upwards (vertical) as shown.



7. OPERATION, TESTING AND MAINTENANCE

7.1 Operation:

7.1.1 The smoke alarm is operational once all wires are properly connected, a fresh battery is installed (TRFSD240I), The smoke alarm is correctly installed on the mounting base and the alarm has been tested.

7.1.2 There are two LED indicators. Each of them has a unique function:

7.1.3 Red LED

7.1.3.A **Stand-by condition:** will flash once approximately every 40 seconds to indicate unit is functioning properly.

7.1.3.B **Alarm condition:** the Red LED will be on solid state when unit goes into alarm, indicating that products of combustion have been detected. Red LED will latch on for about 5 minutes after the alarm stop. After 5 minutes the Red LED to diminish. For interconnected units, the originating smoke alarm Red LED will stay on. All other units will sound but the Red LED will not be on or flash.

7.1.4 Green LED

7.1.4.A **AC Mains-ON Indicator:** indicates that the unit is operating with AC power. If this LED goes out, it indicates that the AC power is off.

7. OPERATION, TESTING AND MAINTENANCE

7.2 **False Alarm Hush Control Feature:**

Note: Dense smoke will override Hush control feature and sound a continuous alarm.

- 7.2.1 This smoke alarm has the capability of being temporarily desensitized for approximately 5 minutes.
- 7.2.2 The smoke alarm is desensitized by pressing the “H U S H” button on the smoke alarm cover.
- 7.2.3 After pressing the “H U S H” button, the alarm will silence immediately and “c h i p” every 40 seconds for approximately 5 minutes to indicate the alarm is in the temporary desensitized condition.
- 7.2.4 The smoke alarm will automatically reactivate after approximately 5 minutes and sound the alarm if particles of combustion are still present.
- 7.2.5 The “HUSH” feature may be used repeatedly until the air has cleaned.

WARNING: Before using the alarm HUSH feature, identify the source of smoke and be certain that a safe condition exists.

7. OPERATION, TESTING AND MAINTENANCE

7.3 Operating and Alarm Characteristics.

Function	LED Status	Recommendation
Normal	Green ON	Green LED indicate the AC mains power is present.
Normal	Red FLASHING every 40 seconds.	Red LED flashes every 30-40 seconds is normal. The smoke alarm performs a self test every 30-40 seconds. The battery and electronics is tested for the life of the unit.
Alarm mode	Red light is SOLID. Smoke alarm activated.	Indicate smoke alarm has activated and is in alarm mode. The Red LED will latch solid for 5 minutes after the alarm and then fade when alarm stops.
Alarm mode	Red Light is OFF. Smoke alarm activated.	Smoke alarm in full alarm. Other interconnected units may have activated the alarm. Check other smoke alarms or devices.
Hush mode	Green light ON. Red light flashing every 40 seconds.	HUSH button is pressed. Smoke alarm emits a chirp every 40 seconds for approximately 5 minutes. Wait 5 minutes and the chirp will automatically stop.
Low Battery	Green ON, Flashing red light every 40 seconds.	Smoke alarm chirp every 40 Seconds. May indicate low battery status. Replace the battery.
Fault	Red light is SOLID	If the red light is constantly solid for more than 15 minutes and there is no sign of alarms. Could mean a potential fault with the unit. Replace the alarm.

8. BATTERY INSTALLATION, REPLACEMENT AND TEST

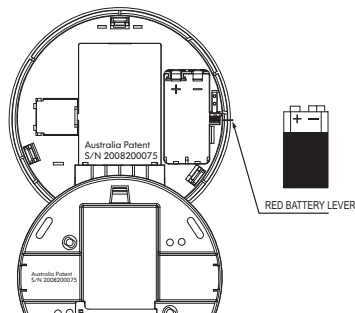
8.1 **Battery Installation**

- 8.1.1 The smoke alarm uses one 9V battery to automatically provide back-up power to the alarm if AC power fails. The battery will operate the alarm for approximately one to three months with AC power off.
- 8.1.2 The smoke alarm has a low battery indicator that will cause the unit to chirp and flash the Red LED at approximately 40 second intervals for a minimum of 7 days. Missing battery with main power connected will cause the unit to chirp and flash the Red LED at approximately 40 second intervals.
- 8.1.3 Replace battery when chirping occurs. To ensure proper operation, the battery should be replaced once a year.
- 8.1.4 To replace battery, remove alarm from mounting base (see section 6.2) and remove the battery from compartment. Replace the old battery with a new one.

8.1.6 **USE ONLY THE FOLLOWING 9-VOLT ALKALINE BATTERIES FOR REPLACEMENT:**

EVEREADY/ENERGIZER 522
DURACELL MN1604, MX1604
These batteries can be purchased at your local retail outlet or super-market.

Caution: Use only specified batteries. Use of different battery may have a detrimental effect on operation or may cause the battery to explode resulting in injury or fire.



8. BATTERY INSTALLATION, REPLACEMENT AND TEST

- 8.1.5 **USE ONLY BATTERIES SPECIFIED ON THE LABEL .**
- 8.1.7 Fold Red Battery Lever down into compartment with fresh replacement battery. If the Red Battery Lever is not held down in the battery compartment by the battery, the smoke alarm will not close and will not be operational. Battery can only be inserted in one direction, ensure polarity is correct.

WARNING: Use of inferior batteries or incorrect types may cause a malfunction of the alarm. When replacing the battery and on reconnection of the detector to the base plate, make sure that the detector is fully connected and flush with the base plate. Verify that the Green LED is ON after reinstalling the alarm on the base plate.

Battery Test:

- 8.2.1 Switch off mains power. The Green LED on the smoke alarm will be OFF.
- 8.2.2 Test alarm by pressing on the Test Button for a few seconds. This should sound the alarm.
- 8.2.3 If the battery module has a fault, the alarm will chirp every 40 seconds.
- 8.2.4 Watch the Red LED for about 40 seconds. It should flash at least once.
- 8.2.5 Switch on mains power only when smoke alarm passes the above tests. The Green LED on the smoke alarm will come ON.

NOTE: NO USER REPLACEABLE PARTS INSIDE.

NOTE: WEEKLY TESTING IS RECOMMENDED!

9. 9V TERMINAL AND REMOTE TEST & HUSH

WARNING: THIS TERMINAL IS NOT ISOLATED FROM THE MAINS SUPPLY.

9.1 9V TERMINAL

This first terminal (Yellow) has a 9Vdc positive output and can be used for the following applications: As an output to operate smoke alarm as an early warning indicator system.

The 9V terminal in this smoke alarm is intended for use with a security/fire alarm panel where a signal from that panel can be used to activate a single Smoke Alarm or interconnected Smoke Alarms to alert residents/occupants that an alarm has been activated elsewhere and there may be cause to evacuate the area. The diagram below shows the 9V terminal and the Signal terminal, marked SW, connected to the N/O (normally open) contacts of a suitable relay, the coil of which when energized from an extra-low voltage signal from an alarm panel, closes the contacts thereby activating the Smoke Alarm(s). This can be an Early Warning Indicator System.

Note: The presence of an audible sound from the smoke alarm and the absence of a flashing RED LED in the smoke alarm(s), means the smoke alarm(s) have been activated externally. It is an Early Warning Indicator.

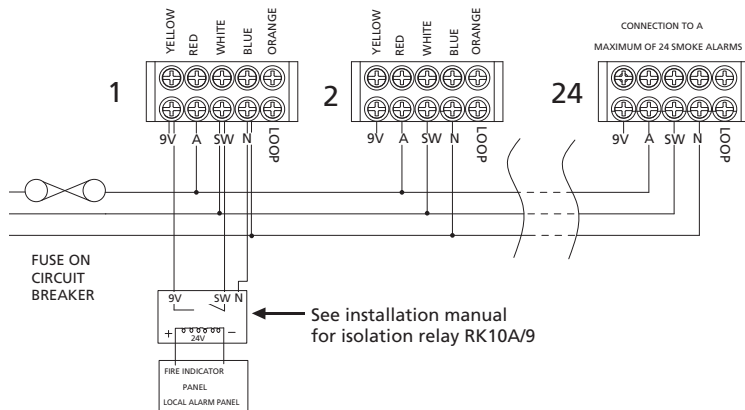
However, check also for the presence of fire or smoke in the vicinity of your dwellings. If there is fire, follow actions in Section 15.

It is essential that the relay and associated base must be of a type providing effective isolation between the coil and contacts (having an isolation voltage [Dielectric Strength] of 4kV and creep/clearance distances of no less than 8mm between the coil and contacts). **We recommend using an OMRON Relay Type G2R-2-SN and Base Type 17X5W which meet the necessary isolation requirements.**

The use of an unsuitable relay and base could also lead to an electric shock risk. The wiring between the Smoke Alarm and the relay must be installed in accordance with the relevant requirements of the SAA Wiring Rules, AS3000, for low voltage (240V) conductors.

9. 9V TERMINAL AND REMOTE TEST & HUSH

Wiring Instruction Showing Smoke Alarms Interconnected and Used as part of an Early Warning Indicator System

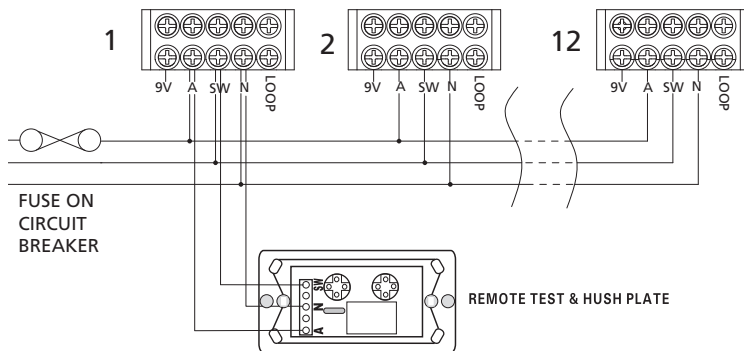


9. 9V TERMINAL AND REMOTE TEST & HUSH

9.2 REMOTE TEST & HUSH PLATE:

This alarm has the ability to be connected to a Remote Test & Hush Plate (LIFTHP) (optional accessory, sold separately). The diagram below shows a sample of the wiring connection required for the Remote Test and Hush Plate. In order for this alarm to operate properly with the LIFTHP, a Remote Test & Hush card (LIFTHC) is required for each alarm in the interconnected system. See the owners manuals for the LIFTHP and LIFTHC for complete operation and instructions.

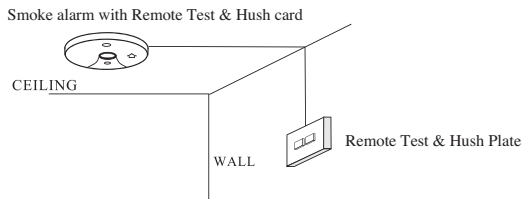
THE WIRING BETWEEN TRFSD240I AND LIFTHP



9. 9V TERMINAL AND REMOTE TEST & HUSH

The Remote Test & Hush Plate can be mounted in an easy to reach location to provide convenient access to the Test and Hush functions of your Models smoke alarm.

Connection diagram between smoke alarm and Remote Test & Hush Plate



10. REPAIRS AND SERVICES

- 10.1 If the smoke alarm is defective in any way, do not tamper with the unit. Return the unit to your supplier (See warranty for instructions on in-warranty returns). There will be a service charge for repairing units out of warranty.
Note: NO USER REPLACEABLE PARTS INSIDE.

WARNING: DO NOT TAMPER WITH RADIOACTIVE SOURCE

11. GOOD SAFETY HABITS

The use of this product should not be seen as a substitute for basic safety precaution in the prevention of FIRE.

There are situations where a smoke alarm may not be effective to protect against fire:

- 11.1 smoking in bed;
- 11.2 leaving children home alone;
- 11.3 cleaning with flammable liquids, such as petrol.

12. THE LIMITATIONS OF SMOKE ALARMS

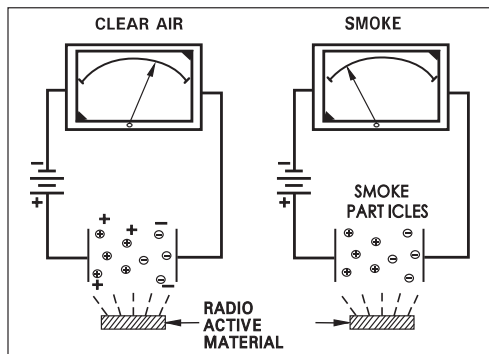
- 12.1 Smoke alarms are devices that can provide early warning of possible developing fires at a reasonable cost.
- 12.2 Alarms have sensing limitations. Ionisation sensing alarm may detect invisible fire particles (associated with fast flaming fires) sooner than Photo-electric alarms. Photo-electric sensing alarm may detect visible fire particles (associated with slow flaming fires) sooner than Ionisation alarms. Home fires develop in different ways and are often unpredictable. Neither type of alarm (photo-electric/ionisation) is always best and a given alarm may not always provide warning of a fire. We strongly recommend that both ionisation and photoelectric smoke alarms be installed to help insure maximum detection of the various types of fires that can occur within the home.
- 12.3 Smoke alarms have certain limitations. For battery powered smoke alarms, the battery must be in good condition and installed properly.
- 12.4 AC powered alarms will not operate if AC power has been cut off, such as by an electrical fault, open fuse or circuit-breaker, or fire. However, the battery back-up will activate the alarm if in good working order.

12. THE LIMITATIONS OF SMOKE ALARMS

- 12.5 Smoke alarms must be tested regularly to ensure that the batteries and alarm circuit are in good operating condition.
- 12.6 Smoke alarms cannot provide an alarm if smoke does not reach the alarm. Therefore, smoke alarm may not sense fires starting in chimneys, walls, on roofs, on the other side of a closed door, or on a different floor.
- 12.7 If the alarm is located outside the bedrooms, or on a different floor, it may not wake up a sound sleeper. A smoke alarm in the bedroom, therefore, is recommended.
- 12.8 Smoke alarms have been significant in saving lives in many parts of the world. However, U.S. Government research indicates that they may not give early enough warning in up to 35% of fires. Hence, the use of this product does not substitute for basic prevention and total protection.
- 12.9 Although smoke alarms can help save lives by providing early warnings of a fire, they are not a substitute for an insurance policy.
- 12.10 This smoke alarm alone will not alert the hearing impaired. Use special purpose smoke alarm with lights or vibrating devices, for those hard of hearing.
- 12.11 Heat alarms are available to offer greater security when used in conjunction with smoke alarms.
- 12.12 Life safety from fire in residential occupancies is based primarily on early notification to occupants of the need to escape, followed by the appropriate egress actions by those occupants. Fire warning systems for dwelling units are capable of protecting about half of the occupants in potentially fatal fires. Victims are often intimate with the fire, too old or young, or physically or mentally impaired such that they cannot escape even when warned early enough that escape should be possible. For these people, other strategies such as protection-in-place or assisted escape or rescue are necessary.

13. OPERATING PRINCIPLES OF SMOKE ALARMS

IONISATION CHAMBER:

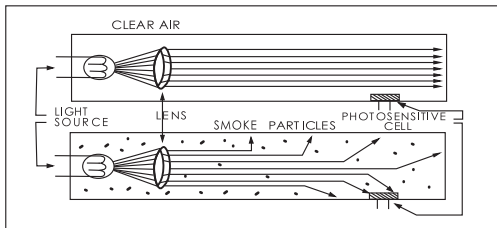


A man-made radio-active element, Americium 241 is used in this design. This element ionises the air round it and as a result, excellent conductivity is possible refer to illustration showing 'Clear Air'). Current supplied by either the mains power (where applicable), or the battery would pass through the gap with ease without causing any alarm. However, in the event of particles arising from combustion or dust particles (refer illustration showing 'Smoke') entering the Sensing Chamber, it encapsulates the ionised air. This interaction causes an increased resistance to conductivity. When this occurs, the alarm is activated.

Ionisation type smoke alarm is best for detecting flaming fires.

13. OPERATING PRINCIPLES OF SMOKE ALARMS

PHOTOELECTRIC CHAMBER:



A light transmission source and a photosensitive receiver is used in this design. Light that is transmitted fall upon the receiver. When smoke or dust enters the light path, some of the light is scattered or absorbed. The result of a reduction of light falling upon the photosensitive receiver will cause an alarm.

Photoelectric smoke alarm is best for detecting smouldering fires.

14. DEVELOP AND PRACTICE A PLAN OF ESCAPE

BASIC OF ESCAPE PLAN:

- 14.1 Make a floor plan indicating all doors and windows and at least two escape routes from each room. Second storey windows may need a rope or chain ladder.
- 14.2 Have a family meeting and discuss your escape plan, showing everyone what to do in case of fire.
- 14.3 Determine a place outside your home where all of you can meet, if a fire occurs.
- 14.4 Familiarize everyone with the sound of the smoke alarm and practice leaving your home when they hear it.

14. DEVELOP AND PRACTICE A PLAN OF ESCAPE

- 14.5 Practice a fire drill at least every six months including drills at nights. Practice allows you to test your plan before an emergency. You may not be able to reach your children. *It is important that they know what to do!*
- 14.6 Install and maintain fire extinguishers on every level of the home and in the kitchen, basement and garage. Know how to use a fire extinguisher prior to an emergency.
- 14.7 Current studies have shown smoke alarms may not awaken all sleeping individuals, and that it is the responsibility of individuals in the household that are capable of assisting others to provide assistance to those who may not be awakened by the alarm sound, or to those who may be incapable of safely evacuating the area unassisted.

15. WHAT TO DO WHEN THE ALARM SOUNDS

- 15.1 Alert small children in the home.
 - 15.2 Leave immediately by your plan of escape. Every second counts, so don't waste time getting dressed or picking up valuables.
 - 15.3 In leaving, don't open any inside door without first feeling its surface. If hot, or if you see smoke seeping through cracks, don't open that door! Instead, use your alternate exit. If inside door is cool, place your shoulder against it, open it slightly and be ready to slam it shut if heat and smoke rush in.
 - 15.4 Stay close to the floor if air is smoky. Breathe shallowly through a wet cloth if possible.
 - 15.5 Once outside, go to your selected meeting place and make sure everyone is there.
 - 15.6 Call the Fire Brigade from your neighbour's home - not from yours!
 - 15.7 Don't return to your home until officials say that it is safe to do so.
- For further information on fire safety contact your local Fire Brigade.**

16. INSTALLER PLEASE NOTE

- 16.1 Before you connect the mains power, check wiring polarity.
- 16.2 If alarm 'chirps' intermittently, this sound is due to the "HUSH®" button having been activated. Allow approximately 10 minutes for the alarm to reset.
- 16.3 A smoke alarm with built-in rechargeable battery will require a minimum of 1 hours for charging to its full capacity. Make sure that there is sufficient charge time, otherwise the alarm will 'chirp' sound.
- 16.4 If the alarm 'chirps' again, press the Test button to check the battery condition.
- 16.5 If 'chirps' persists, replace smoke alarm and return to your supplier for replacement.

NOTE: NO USER REPLACEABLE PARTS INSIDE.

17. WARNING: INSULATION TEST

- 17.1 **UNDER NO CIRCUMSTANCES MUST AN INSULATION RESISTANCE TEST BE CARRIED OUT ON A CIRCUIT TO WHICH A SMOKE ALARM IS FITTED.**
- 17.2 **THE TEST COULD CAUSE IRREPARABLE DAMAGE TO THE INTERNAL CIRCUITRY OF THE SMOKE ALARM AND MAKE IT INOPERATIVE.**
- 17.3 **THE WARRANTY WOULD BE VOID UNDER SUCH CIRCUMSTANCES.**

NOTE: WEEKLY TESTING IS RECOMMENDED!

Warranty Form

Please retain this warranty section and complete the details below. When you claim Warranty for the product. Please present this section together with the faulty product.

Please retain this warranty section and complete the details below. When you claim Warranty for the product. Please present this section together with the faulty product.

Model: _____ Serial Number: _____

Date Of Purchase/ Installation: _____ Invoice No: _____.

Installed By: _____

Owner's Details: _____

**This smoke alarm has an expected service life of 10 years under normal conditions.
We recommend that you should replace the smoke alarm after 10 years from installation date to ensure normal operation. Please use a date label as a reminder.**

**CAUTION: RADIOACTIVE MATERIAL**

WHEN THIS PRODUCT IS NO LONGER REQUIRED DISPOSE BY RETURNING TO PSA PRODUCTS PTY LTD. 17 MILLICENT STREET, BURWOOD, VICTORIA 3125, AUSTRALIA OR YOUR STATE HEALTH DEPARTMENT.

NOTE: ALTERNATIVE DISPOSAL IS NOT PERMITTED.

**THIS SMOKE ALARM HAS BEEN TESTED AND COMPLIES TO
AS3786**

**DEAR ELECTRICIAN:
PLEASE LEAVE THIS MANUAL FOR THE OWNER.
THANK YOU FOR CHOOSING THIS SMOKE ALARM.**



Tested and Complies to AS3786



N10116

AUSTRALIA PATENT S/N 2008200075

AUSTRALIAN ELECTRICAL AUTHORITY - CS8736