

User Manual



Model: RFMDUAL

Flush Mount Dual 240V Mains Powered or 10 Year Lithium Battery Photoelectric Smoke Alarm (RF Module Optional)

INTRODUCTION

IMPORTANT: If you are installing this product for use by others, you must leave this manual (or a copy of it) for the end user.

Add the RF module (RFMOD) to this smoke alarm to enable wireless connection with other RF wireless alarms/products from Red Smoke Alarms.

RFMDUAL is a photoelectric flush mount smoke alarm that provides versatile functionality. It can serve as a 240V mains powered alarm with a 10-year lithium battery backup. It can also be interconnected with other 240V Red smoke/heat alarms or function as a standalone 10-year lithium battery smoke alarm with the option for wireless interconnection using an RF module. The alarm is designed for convenient installation with a 90mm cut out hole.

The flush mount design of the smoke alarm ensures that it remains level with the ceiling, providing both effective protection and a discreet appearance.

SPECIFICATION

Power Source:	220-240V, 50Hz 10 Year 3V Lithium Battery (As mains power source or as backup battery)
Operating Current:	≤48 mA
Sensing Type:	Type A Photoelectric smoke alarm - contains NO radioactive material
Temperature Range:	0°C to 45°C
Humidity Range:	5% to 95% (non-condensing)
Interconnecting:	40 alarms wires over 150 metres maximum
Sound Level:	> 85dB at 3 metres minimum
Alarm Condition:	Audible signal pattern (ISO 8201) Green LED for mains power ON Red LED for pairing, warning and low battery indication
Visual Indicators:	
Cut-out Hole Size:	Ø90mm
Protrusion from ceiling:	31mm
Approval:	AS 3786:2014
Maximum Lifespan:	10 years

IMPORTANT: READ ALL INSTRUCTIONS BEFORE INSTALLATION. NO USER SERVICEABLE PARTS INSIDE THIS SMOKE ALARM. Do not attempt to repair the smoke alarm yourself.

BATTERY

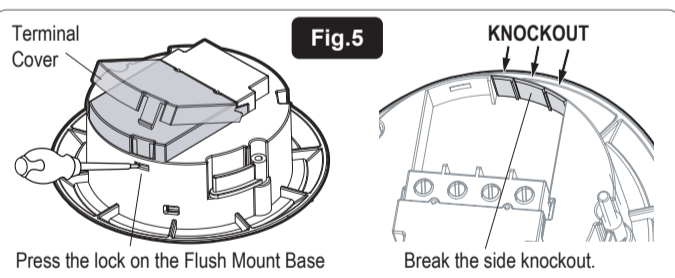
This smoke alarm offers two power options: It can be powered either by a sealed-in 3V non-replaceable lithium battery or by connecting it to AC mains power. If the smoke alarm is connected to AC mains power, the lithium battery acts as a backup power source that automatically activates in the event of an AC power failure. The lithium battery is specifically designed to provide power for up to 10 years, ensuring continuous functionality during extended power outages.

Under normal operating conditions, the 3V non-replaceable battery has an estimated lifespan of 10 years, eliminating the need for frequent battery replacements. However, it is still recommended to regularly test the smoke alarm to ensure proper functioning.

- In areas where bugs or insects are present, address the issue before installing the smoke alarm. Although all smoke alarms built since 1985 are designed to prevent bugs from entering the detection chamber, bugs may still build up on chamber openings and prevent smoke from entering. If bugs are present, vacuum the unit frequently as described in the maintenance section.
- Within one metre of a fluorescent or compact fluorescent lamp, as electrical "noise" may cause nuisance alarms.

INSTALLATION - WIRED CONNECTION

- 1 Remove the Terminal Cover**
Use an insulated screwdriver to press the lock on the Flush Mount Base. See Fig.5.
- 2 To install the hardwire and connect the terminals on the Flush Mount Base, break the side knockout.** See Fig.5.



INSTALLER PLEASE NOTE:

- **WARNING:** Please ensure to disconnect the mains power from the circuit.
- Prior to connecting the mains power, ensure wiring polarity is correct.
- This smoke alarm is designed for flush mounting only.

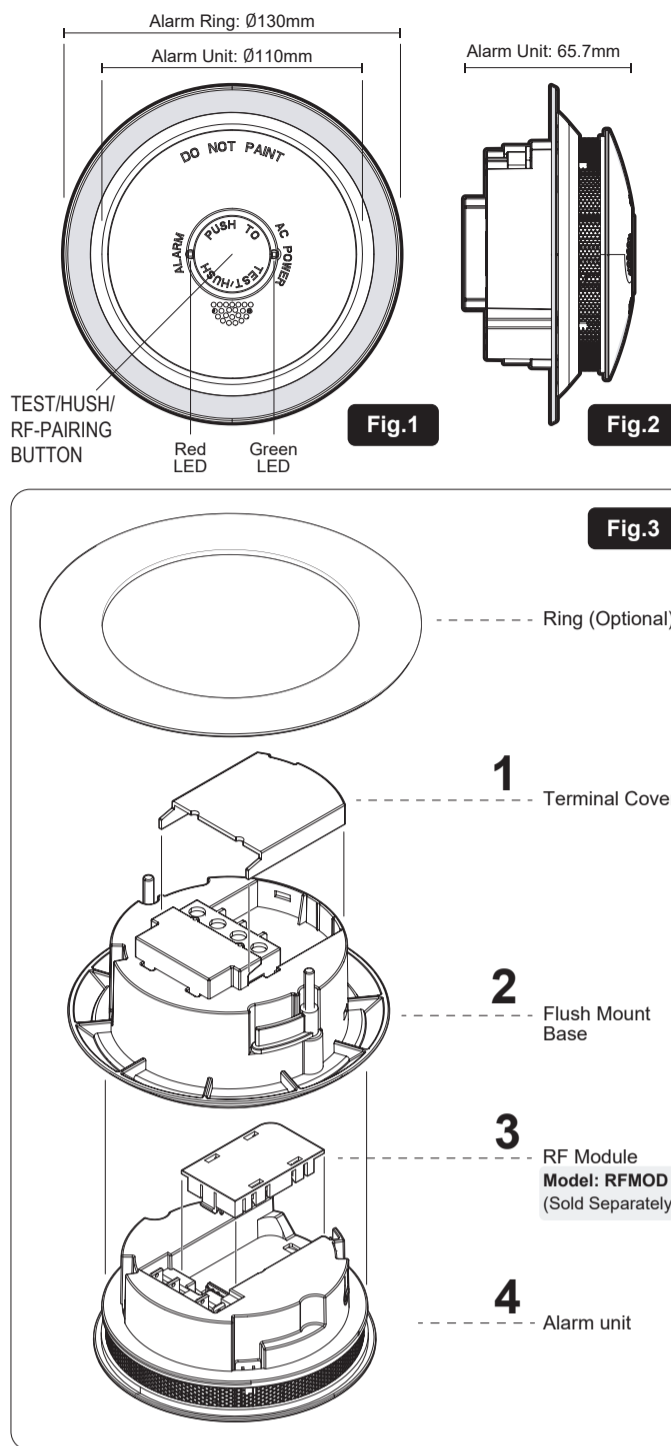
WIRING INSTRUCTIONS:

- This smoke alarm can be interconnected with other Red alarm devices including R240, R240RC, RHA240SL. Connecting this smoke alarm to other brands or models may result in potential damage or create risks such as electric shock or fire hazards.
- Up to 40 smoke alarms can be interconnected.
- The supply terminal block of the alarm consists of four labeled terminals: Interconnect, N, E/LOOP, and A. It is essential to ensure proper wiring to ensure the alarm functions correctly. Incorrect wiring can lead to damage to the unit and will void the warranty. For guidance on the appropriate wiring, please refer to the provided wiring diagrams.
- The maximum length of wire used in interconnecting smoke alarms should not exceed 150 metres, and the spacing between interconnecting smoke alarms must not exceed 30 metres per alarm. The minimum wire cross-section is 1.00mm². Interconnected smoke alarms must be connected to the same final sub-circuit.
- Do not use any wire that may be confused with normal house wiring for the interconnect wire, such as green/yellow earth wire.
- Do not connect AC power wires to the Interconnect terminal, as this may damage smoke alarms.
- Do not connect the Interconnect wire to any device other than the Interconnect terminal of another Red alarm devices including R240, R240RC. Otherwise, the RFMDUAL will be damaged.
- Smoke alarms should be interconnected only within the confines of a single-family living unit. Interconnecting smoke alarms between different units may result in excessive nuisance alarms. Residents may not be aware that smoke alarms are being tested or that the alarm is a nuisance caused by cooking, etc.

CAUTION - EQUIPMENT INSTALLATION HAZARD

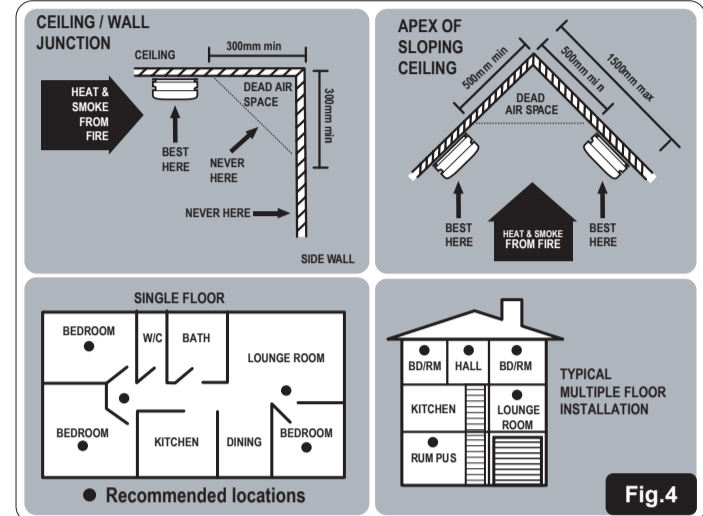
- Red LED flashes very quickly (3 times per second) without sound. This means neutral connection is missing or wiring is incorrect.
- Please check wiring and connection of smoke alarms with flashing red LED and rectify wiring issue immediately.

DIAGRAM



RECOMMENDED LOCATION OF ALARMS

- Install at least one alarm for each bedroom
- Install at least one alarm to protect any stairway
- Install at least one alarm on every floor level.
- Install an alarm in every room where a smoker sleeps as additional protection.
- Install an alarm in every room where electrical appliances are operated (i.e. portable heaters or humidifiers) as additional protection.
- Install an alarm in every room where someone sleeps with the door closed as additional protection. The closed door may prevent the alarm from waking the sleeper.
- When mounting an alarm on the ceiling install it at a minimum of 300mm from the side wall and 500mm max. from any corner (see diagram).
- When mounting an alarm on a wall, install it at a minimum of 300mm from the ceiling level but not more than 500mm from the ceiling level and any corner (see diagram)
- When mounting an alarm at the apex of a sloping ceiling it should be located a minimum of 500mm from the apex but should not exceed 1500mm (see diagram).



AVOID THESE LOCATIONS

Avoid installing the smoke alarm in the following locations:

- Within one metre of heating or cooling supply vents, return air or fresh air vents, as smoke may be blown away by the supply vents or diverted into the return air vent, leading to improper alarms.
- In areas where the temperature may fall below 0°C or rise above 45°C, as smoke alarms are designed to operate safely only within these temperature ranges. Operating outside these limits may result in failure to alarm, improper alarms, or nuisance alarms.
- In damp or very humid areas, such as bathrooms with showers, where humidity levels may rise above 95%. Above this level, moisture may condense inside the smoke chamber, causing false alarms. Additionally, the smoke alarm may become unstable below 5% relative humidity.
- In areas where particles of combustion are present, such as garages or kitchens, as this can cause false alarms.
- In dusty or dirty areas where an installation cannot be relied on. An accumulation of dust and dirt in the sensing chamber may block the openings and prevent an alarm or cause false alarms. If a smoke alarm is required in such an area, vacuum it frequently and test it according to the "Operation and Testing" section.
- In the dead air space in the corner where the wall meets the ceiling. If unsure about the exact location of mounting, contact the local fire department for assistance in choosing a safe location.

DUST COVER

The smoke alarm is packaged in a plastic dust cover for the following reasons:

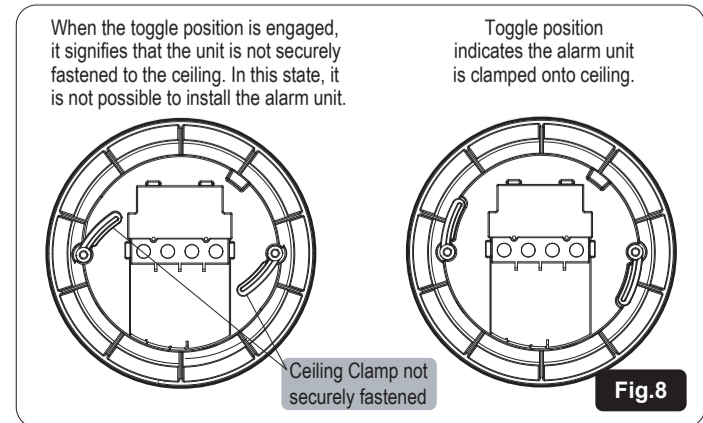
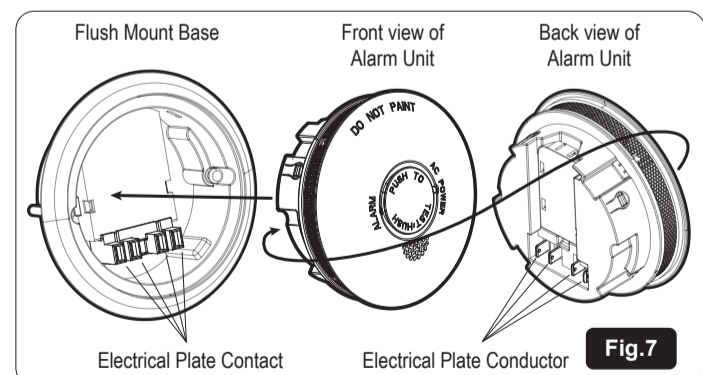
1. To safeguard the alarm unit from dust during the building construction phase.
 2. Red Smoke Alarms recommends keeping the alarm unit (in the dust cover) aside until the building commissioning phase to prevent it from getting dusty.
- During commissioning, remove the dust cover and attach the alarm unit to the flush mount base assembly. After removing the dust cover, please store it away from infants and young children to prevent the risk of suffocation.

ACTIVATE THE SMOKE ALARM

STEPS TO ACTIVATE THE SMOKE ALARM:

1. Remove the alarm unit from the dust cover.
2. Insert the RF module into the alarm unit for wireless interconnection (optional). [SEE SECTION - RF WIRELESS INTERCONNECTION FOR FURTHER DETAILS.](#)
3. Insert the alarm unit into the Flush Mount Base as shown in figure 7. Check the direction of the Electrical Plate conductor on the alarm unit. Ensure the four electrical plate could insert to the Electrical Plate Contact at the flush mount base.
4. Push the alarm unit firmly until it latches (clicks) onto flush mount base.
5. Turn on mains power and check the green and red LED function. The green LED should glow to show main power present. The red LED will pulse every 48 seconds (approximate) to indicate correct operation.
6. Hold the Test/Hush button for 1 seconds to check that the alarm works.

WARNING: Clipping the Electronic Unit in the base will activate the battery. The battery has been designed to have a lifespan of 10 years in normal working condition.

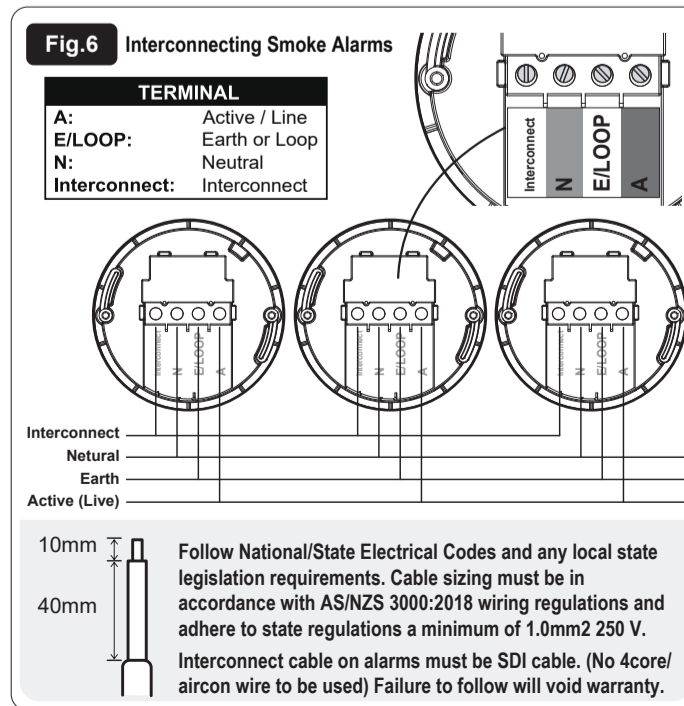


MOUNTING INSTALLATION

Prior to mounting the smoke alarm, it is important to carefully review the following instructions. The smoke alarm comprises of two sub-assemblies: the Flush mount base assembly and the alarm unit. Red recommends setting aside the alarm unit, which is enclosed in a plastic dust cover, until the building commissioning phase. This phase typically includes tasks such as sanding, painting preparation, painting, and flooring.

Please follow these steps to mount the smoke alarm:

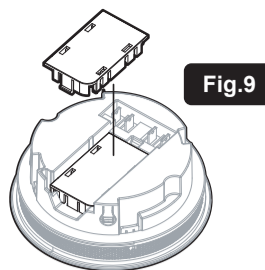
1. Choose a suitable location on the ceiling for the smoke alarm.
 2. Cut a Ø90mm hole in the ceiling.
 3. Strip the Active, Neutral, and Interconnect (if used) wires as per the strip length shown in Fig.6.
 4. Remove the terminal cover to access the terminals.
 5. Connect the wires to the appropriate terminals on the flush mount base, as illustrated in Figure 6. Ensure that the screws are securely tightened.
- Note:** Never connect multiple RFMDUAL with RF Modules and hard wire interconnection together.
- Please note that the interconnect terminal of the RFMDUAL is solely intended for hard wire connection directly to other smoke alarms and/or heat alarms.
6. Reattach the terminal cover.
 7. Insert the flush mount base into the hole and tighten the two screws to clamp the base onto the ceiling, as shown in Fig.8.
 8. Please note that the alarm unit should not be removed from the plastic dust cover.



RF WIRELESS INTERCONNECTION

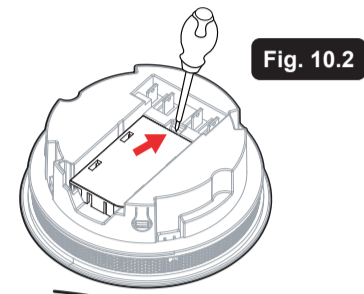
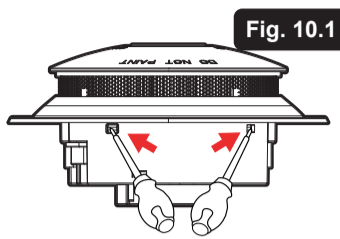
INSTALL THE RF MODULE INTO THE ALARM UNIT:

- Adjust the angle of the RF Module to be parallel with the alarm unit and gently push the RF Module. Please refrain from applying excessive force to avoid damaging the RF Module. If the RF Module does not fit into the alarm immediately, readjust the angle of the RF Module and reinsert it.
- The alarm unit will have click sound to indicate the RF module has been installed into the alarm unit.



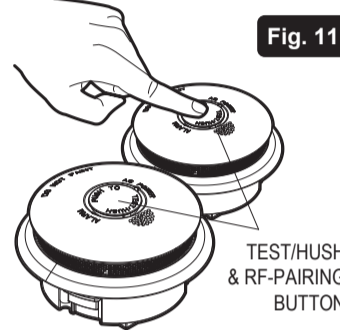
REMOVE THE MODULE CHIPS FROM THE ALARM UNIT:

- To detach the alarm unit from the flush mount base, utilise an insulated screwdriver to press the button located at the two arrow points. See fig.10.1
- Grasp the alarm unit firmly and utilise an insulated screwdriver to push the head of the RF Module, thereby removing the RF module from the alarm unit. See fig.10.2.



RF WIRELESS PAIRING INSTRUCTION

- RFMDUAL as Master
 - Press and hold the test button for 10 seconds until the alarm's red LED turns solid.
- RFMDUAL as Slave
 - Press the test button 2 times quickly, Alarm LED will flash for 5 times to indicate successful connection.



TESTING

- Follow steps in Section - "Testing" Press and hold the test button 1 second, then release.
- Smoke alarm will go off, paired smoke alarms will also go off within 60 seconds. Alarm red LED will flash for 60 seconds.

Clear Pairing Memory

- Press the test button 5 times, Alarm red LED will flash for 10 times.

OPERATION

This smoke alarm has a built-in feature to detect the power source.

If the A (Active) connection is present and the alarm is activated, it operates as a 220-240V mains-powered smoke alarm. In this case, the battery acts as a backup and lasts for 10 years from installation. See Fig. 7 for instructions on activating the smoke alarm.

If the A (Active) connection is not present and the alarm is activated, it relies solely on battery power. The battery, under normal conditions, lasts for 10 years from installation. Instructions for activating the smoke alarm can be found in Fig.7.

TESTING

TESTING

- Before testing, please ensure that the smoke alarm has been activated, either through its battery or AC power supply.
- Regularly testing the smoke alarm is crucial to ensure its proper functioning and early detection of fires, regardless of whether it is powered by a battery or AC power.

1) To perform the test, press and hold the "HUSH/TEST" button for 1 second. This will activate the alarm, indicating that the electronic circuitry and horn are functioning correctly.

Note: If the alarm does not sound during the test, please check the battery or AC power supply and ensure that the smoke alarm is connected to a continuous final sub-circuit.

Note: At the same time, any alarm that is RF paired to the RF network or hardwire interconnected to the smoke alarm will also be triggered within 30 seconds.

2) To deactivate the smoke alarm from the test mode, briefly press the test button once again.

Note: Continuous chirping, erratic noise, or a low sound from the alarm may indicate a defective alarm. In such cases, please return the unit to the place of purchase.

WARNING: Never use an open flame of any type to test your alarm. Check that all interconnected smoke alarms operate during the test.

WARNING: Do not apply excessive force on the "HUSH/TEST" button this may damage the smoke alarm and may void the warranty.

CAUTION: Smoke alarm should be tested on a monthly basis. To accurately test the integrity of the sensing chamber use a smoke detector (aerosol) tester.

Activation / Deactivation	Smoke Alarm Indication:
Activate test mode: hold the test button for 1 second. (test mode will last for 60 seconds)	Red LED will flash rapidly for 3 seconds, then stay solid
Deactivate the test mode: press the test button for 1 time.	Red LED will turn off

Featured LED and Alarm Signal

- Fire Alarm**
The smoke alarm will sound a loud alarm (85 dB) and the red LED will flash rapidly. This will continue until the air is cleared.
- Standby**
The red LED flashes once every 48 seconds to indicate the smoke alarm and battery are functioning correctly.
- Memory Function**
If one of the alarm indicators (RED LED) is flashing every 4 seconds, it indicates that a smoke alarm has previously been activated.
- Low Battery**
The smoke alarm signals low battery by flashing the red LED once and emitting a chirp every 48 seconds.
- Green LED**
The green LED is illuminated when the mains power (220-240V) is on. If the smoke alarm is powered only by battery. The Green LED will not illuminate.

HUSH OR SILENCE FUNCTION

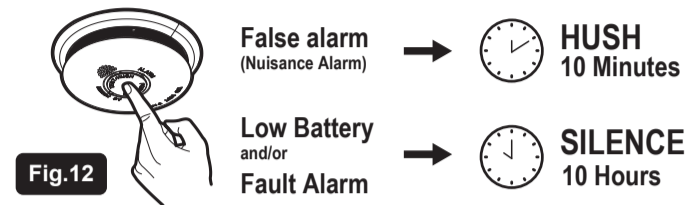
This smoke alarm has a built-in Hush or Silence feature incorporated into the Test/Hush button. If cooking or other non-hazardous sources cause the alarm to sound, it can be temporarily Hush by depressing the Test/Hush button for 1 second. The alarm will then enter a dormant period for 10 minutes.

After the 10 minute dormant period, the smoke alarm will resume normal operation.

Note: After the Test/Hush button has been pressed, wait 10 minutes before any additional testing is conducted to avoid any abnormal responses as the smoke alarm is not sensitive to smoke during this period. See Fig.12 for details.

This smoke alarm has a self-diagnosis. If the smoke alarm detects the battery is low and/or an internal fault, it will chirp. This alarm could be temporarily silenced by holding the Test/Hush button for 1 second. The alarm will not chirp for 10 hours but the LED will remain functioning. It is recommended to replace the smoke alarm as soon as possible after this period of time.

Note: Silence will not affect the basic fire warning functions of a smoke alarm. During the silenced period, if the smoke alarm detects any smoke, it will still operate fire warning (Rapid flashing red LED and chirping). See Fig.12 for details.



PLANNING

Developing and implementing an escape plan is crucial for ensuring the safety of your household in the event of a fire. To do so, it is recommended that you follow the steps outlined below:

- Create a floor plan that identifies all doors and windows, as well as at least two escape routes from each room. Note that for second-storey houses, rope or chain ladders may be necessary.
- Hold a family meeting to discuss and review your escape plan, ensuring that each member understands what to do in case of a fire.
- Designate a predetermined location outside of your home where all family members can meet in the event of a fire.
- Ensure that everyone is familiar with the sound of the smoke alarm and conduct regular practice drills of leaving the home when it goes off.
- Conduct fire drills at least every six months, including night-time drills.
- Practicing your escape plan allows you to test its effectiveness before an actual emergency. It is crucial that every member of the household is aware of the plan, as they may need to act quickly and independently in the event of an emergency.

IN CASE OF FIRE

Developing and practicing a plan of escape is essential for ensuring the safety of your household in the event of a fire. When the smoke alarm sounds, it is crucial that you follow the steps outlined below:

- Leave the building immediately using your pre-determined plan of escape. Time is of the essence, so do not waste time getting dressed or retrieving valuables.
- When exiting, do not open any internal doors without first feeling the surface. If the door is hot or smoke is seeping through cracks, do not open it. Instead, use your alternative exit. If the door is cool, place your shoulder against it, open it slightly, and be prepared to shut it quickly if heat or smoke rush in.
- Stay close to the floor if the air is smoky and breathe shallowly through a wet cloth if possible.
- Once outside, proceed to your designated meeting place and ensure that all family members are present.
- Call the Fire Brigade from a neighbor's home, not from your own.
- Do not re-enter your home until officials confirm that it is safe to do so.

For additional information on fire safety, please contact your local Fire Brigade.

MAINTENANCE, REPAIRS, AND SERVICE

When it comes to maintaining, repairing, and servicing your smoke alarm, it is important to follow proper guidelines. Please refer to the information below:

Maintenance:

To ensure optimal performance, it is recommended that the smoke alarm be inspected monthly to check for dirt, dust, and insects. The alarm can be vacuumed or brushed with a soft brush to remove accumulated dust, dirt, or kitchen grease. Additionally, applying a small amount of surface spray to a cloth and wiping around and over the alarm which will should deter insect ingress. After cleaning, always test the smoke alarm to ensure that it is functioning correctly.

Repairs / Service:

In the event that the smoke alarm is defective, refrain from tampering with the unit. The unit does not contain any user-serviceable parts. Seek professional assistance for repairs or servicing.

LIMITATION OF SMOKE ALARMS

- When discussing the limitations of smoke alarms, it's important to keep the following points in mind:
- Smoke alarms can only detect smoke if it reaches the device. This means that fires that start in areas far away from the alarm, such as chimneys, walls, roofs, or another floor of the building, may not be detected.
- If the smoke alarm is located outside of the bedrooms or on a different floor, it may not be able to wake up individuals who are sound sleepers. For this reason, it is recommended that a smoke alarm be installed in each bedroom to provide additional protection.
- While smoke alarms can provide early warning of a fire and help save lives, they should not be considered as an alternative to an insurance policy.
- Standard smoke alarms will not alert individuals who are hearing impaired. Special purpose devices such as the Red Strobe Light and Vibrating Pad for Hearing Impaired should be used in these cases to ensure that everyone in the building is alerted in the event of a fire.
- By keeping these limitations in mind, individuals can take steps to maximize the effectiveness of their smoke alarms and ensure that they are taking all necessary precautions to protect themselves and their property from the dangers of fire.

INDICATION AND ACTION

If you observe any indication from the smoke alarm and are uncertain about its condition, please refer to the table below for the "LED Indicator" and "Siren" of your smoke alarm. The table will help you determine the current status of the alarm and the appropriate action to be taken.

If you require further assistance, we recommend reaching out to our technical support for inquiries. You can find the contact details in this manual.

STATUS	LED INDICATOR	SIREN	ACTION NEEDED
Standby Mode (Powered by Battery only)	Green LED not illuminated Red LED 1 flash every 48 seconds	None	Smoke alarm in standby condition, powered by internal sealed battery power. No action required.
Standby Mode (240v AC mains powered)	Green LED illuminated Red LED 1 flash every 48 seconds	None	Smoke alarm in standby condition, powered by 240v AC mains and backup battery. No action required.
Fire Alarm Mode	Red LED flashing rapidly until smoke is clear	chirping rapidly until smoke is clear	Smoke Alarm detects fire. See Section - "In case of fire"
Fire Warning Mode	Red LED flashing rapidly for 3 seconds and remain illuminated for 60 seconds (if without deactivation)	chirping rapidly for 3 seconds only	Activate the test mode by holding the test button for 1 seconds. Deactivate the test mode by pressing the test button 1 time. See Section - "TESTING"
Low Battery Warning	Red LED 1 flashes every 48 seconds	1 short chirp every 48 seconds (Chirp pattern sync with the Red LED)	The battery is low. Check Section - "Maintenance, Repairs, and Service" for further instruction.
Memory Function	Red LED 1 flashes every 4 seconds, lasting 72 hours	None	This indication will last for 72 hours. Then, it will automatically resume to standby mode. No action required.
Unit Fault	Red LED 2 short flashes every 48 seconds	2 short chirps every 48 seconds (Chirp pattern sync with the Red LED)	The alarm unit is faulty. Check Section - "Maintenance, Repairs, and Service" for further instruction.

WARRANTY

WARNING: DO NOT ATTEMPT TO OPEN THE HOUSING.

Red Smoke Alarms warrants the RFMDUAL to be free from defects in materials and workmanship under normal use and service for a period of ten years from manufacture date. The company will not be obligated to repair or replace parts which are found to be in need of repair because of misuse, damage or alterations that occur after the date of purchase. Return the RFMDUAL smoke alarm with proof of purchase to your local distributor. The liability of the company arising from the sale of this RFMDUAL Smoke Alarm shall not in any case exceed the cost of replacement and in no case shall the company be liable for consequential loss or damages resulting from the failure of the RFMDUAL Smoke Alarm.

RED SMOKE ALARMS PTY. SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY OR PROPERTY DAMAGE, OR ANY SPECIAL INCIDENTAL, CONTINGENT OR CONSEQUENTIAL DAMAGE OF ANY KIND RESULTING FROM A FIRE. THE EXCLUSIVE REMEDY FOR BREACH OF THE LIMITED WARRANTY CONTAINED HEREIN IS THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT AT RED SMOKE ALARMS PTY. LTD. OPTION. IN NO CASE SHALL RED SMOKE ALARMS PTY. LTD.'S LIABILITY UNDER ANY OTHER REMEDY PRESCRIBED BY LAW EXCEED THE PURCHASE PRICE. YOUR RFMDUAL SMOKE ALARM IS NOT A SUBSTITUTE FOR PROPERTY, DISABILITY, LIFE OR OTHER INSURANCE OF ANY KIND. APPROPRIATE COVERAGE IS YOUR RESPONSIBILITY. CONSULT YOUR INSURANCE AGENT.

This does not affect your statutory rights.

This device is only suitable for single occupancy private dwellings only and not intended for multi occupancy private dwellings or commercial or industrial dwellings.

Waste electrical products should not be disposed of with normal household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice. New regulation will encourage the recycling of Waste from Electrical and Electronic Equipment (European "WEEE Directive" effective August 2005).

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