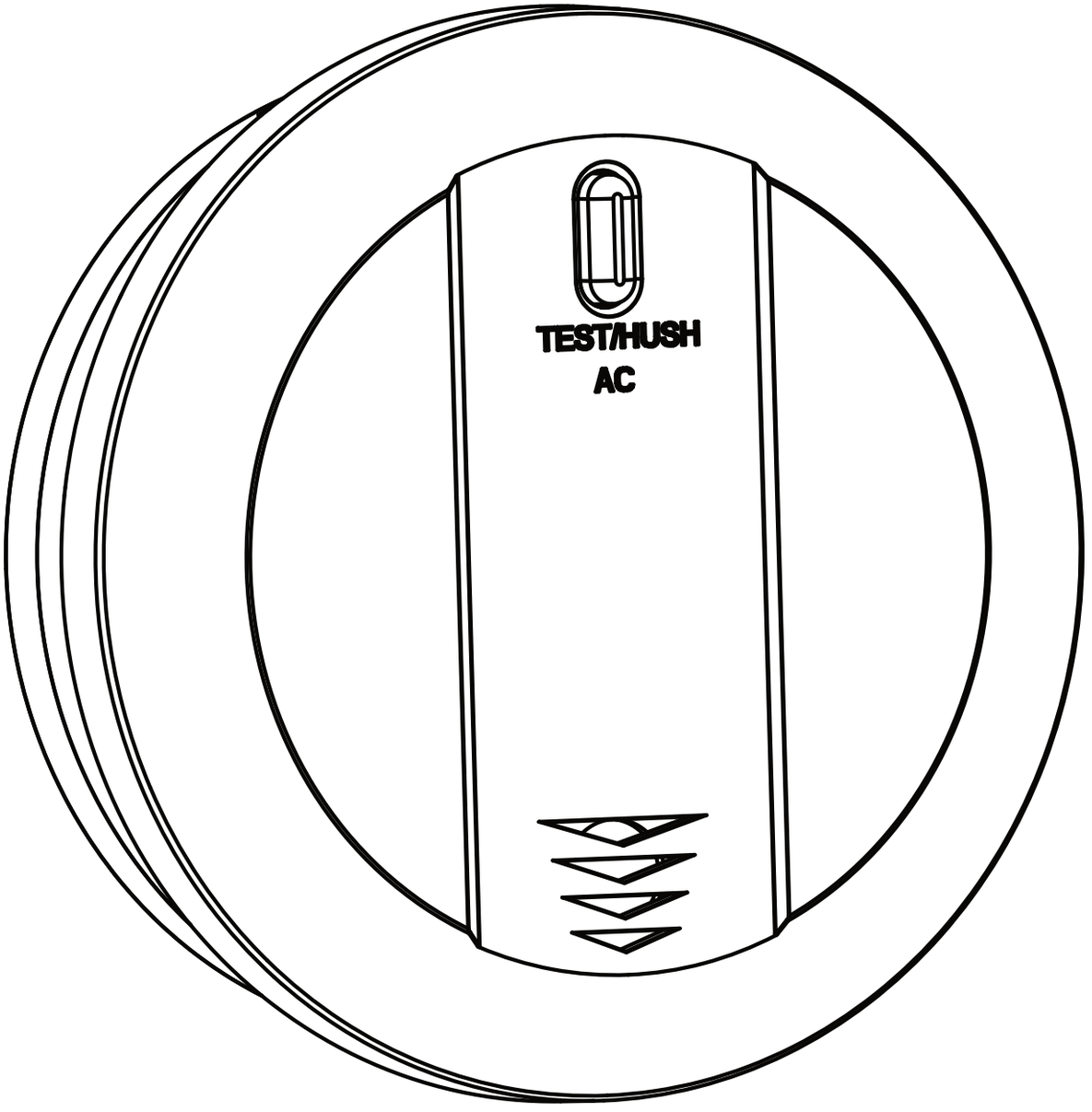
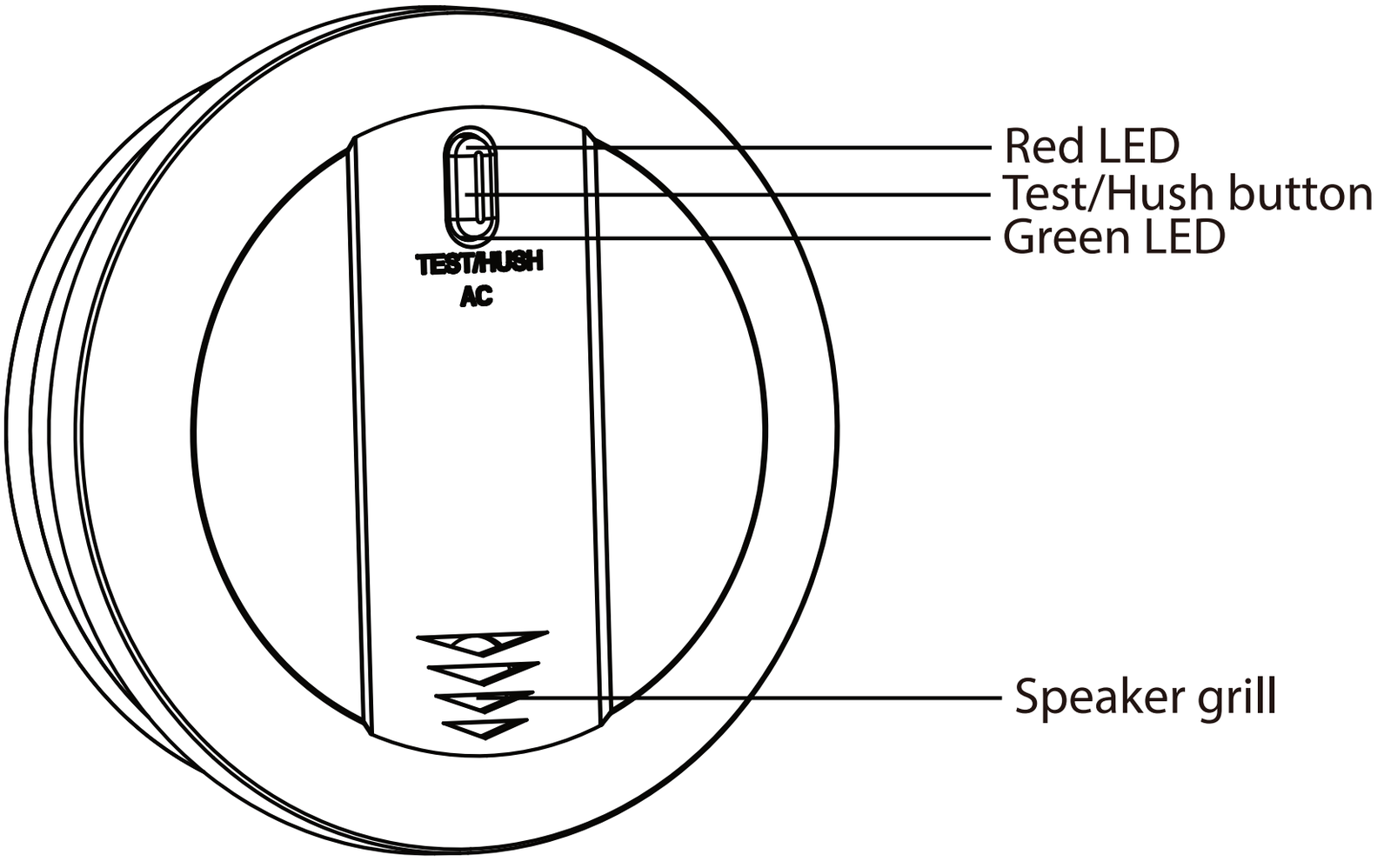
ORCA™



Installation and User Manual

Smoke Alarm Model OM1907-AC

Product Overview



Model: OM1907–AC

Product Description

This photoelectric smoke alarm is designed to detect smoke from emerging household fires and alert occupiers if properly installed and maintained, providing extra time to safely evacuate the home. This product is designed for household or residential use.

This product complies with NZ laws and is certified to AS3786:2014.

Features

- 220V~ 240V Mains powered, 50Hz, 80mA.
- Single station and / or inter-connectable up to 24 units.
- Photoelectric sensor.
- 9V Replaceable battery back-up.
- Test & hush control.
- Low battery indication.

Important Information

- Please read these instructions before installing the alarm.
- This alarm should be installed by a registered electrician.
- There are no parts within alarm that should be replaced by the user.
- Disconnecting alarm from the mounting base and/or removing the 9V battery will render this smoke alarm inactive.
- Alarm has an expected service life of 10 years under normal conditions.
- This alarm should be replaced 10 years after its installation date.

Recommended Location of Alarms

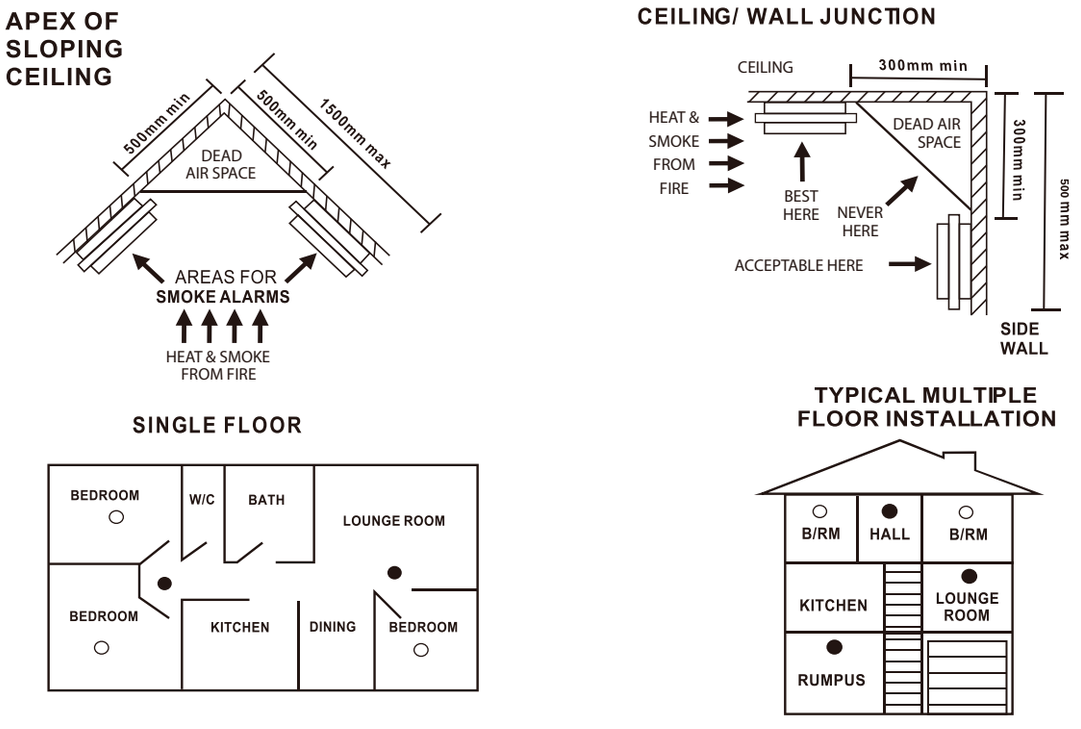
- Emerging smoke rises to the ceiling and spreads horizontally. Mounting the alarm on the ceiling close to the centre of the room provides the best protection. Ceiling mounting, rather than wall mounting, is preferred in normal residential construction.
- When mounting alarms on the ceiling locate it at least 300mm away from the side wall and 300mm away from any corner. (see diagram overleaf).
- When mounting alarms on a wall, use the inside wall. The recommended position is between 300mm and 500mm off the ceiling. (see diagram overleaf).
- 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 overleaf).
- Locate at least one alarm on every floor level.
- Locate an alarm in every room where electrical appliances are operated (i.e. Portable heaters or humidifiers).
- Locate an alarm for each separate sleeping area in the immediate vicinity of the bedrooms. Monitor the exit path as the bedrooms are usually farthest from an exit.
- Locate smoke alarm at both ends of a bedroom hallway or large room if the hallway or room is more than 9m long.

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

Recommended Location of Alarms

- Locate additional alarms to monitor any stairway as stairways act like chimneys for smoke and heat.
- For mobile home installation select location carefully to avoid thermal barrier that may form at the ceiling. For more details see Mobile Home Installation.
- Do not locate smoke alarms in kitchen areas due to potential nuisance alarms from cooking fumes.
- Incorrect orientation of smoke alarm may decrease operation effectiveness.

Installation



● Smoke alarms for minimum protection.
○ Smoke alarms for additional protection.

Mobile Home Installation

- Modern mobile homes have been designed and insulated to be energy efficient. Install smoke alarms as recommended (refer to Recommended Locations).
- 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 the 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.
- 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.

Note: Test your smoke alarm operation after mobile home vehicle has been in storage, before each trip and at least once a week during use.

Avoid these Locations

- Do not locate your alarm in the garage - vehicles and workshop equipment can cause fumes.
- Do not locate your alarm in front of forced air supply ducts used for heating and air conditioning and other high air flow areas.
- Do not locate your alarm less than 500mm from the peak of an "A" frame type ceiling.
- Do not locate your alarm in areas where temperatures may fall below 5°C or rise above 40°C, or in humidity higher than 90% as these conditions may reduce battery life.

Avoid these Locations

- Avoid dusty areas, dust particles may cause smoke alarm to false alarm or fail to alarm.
- Avoid very humid areas or near a bathroom or laundry, moisture can cause false alarm.
- Avoid insect-infested areas.
- 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, a ceiling or whole house ventilating fan, or other high flow areas.
- Avoid locating near fluorescent lights or other electrical equipment. Electronic magnetic interferences or"noise" may cause nuisance alarms or chirping.
- 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.

False Alarms

- 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.
- Combustion particles from cooking may set off the alarm if the alarm is located close to the kitchen cooking surface or appliance.
- Large quantities of combustion particles are generated from spills and over-boil.
- An alarm with a Hush Control device is preferable near a kitchen environment for this reason.

Alarm Cleaning

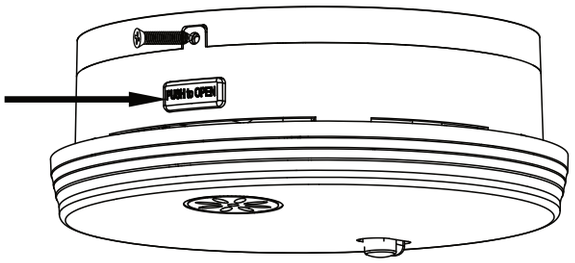
To prevent false alarming caused by buildup of dust and insects, remove base plate from alarm (see pg 8) and carefully vacuum all gaps and openings with the brush attachment on your household vacuum cleaner. Repeat procedure every 6 months.

False Alarms

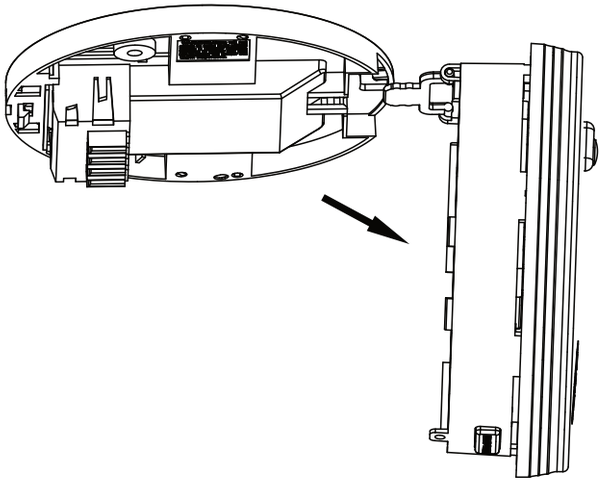
- Photoelectric type smoke alarms are less prone to false alarm near kitchen areas than ionisation type smoke alarms.
- If the alarm does sound, check for fire first. If a fire is discovered, escape quickly and call the Fire Brigade. If no fire is present, check to see if one of the reasons listed on previous page may have activated the alarm.

How To Remove Smoke Alarm from Base Plate

- Switch off mains power.
- Remove Tamper Locking Screw (if installed).
- Look for 'PUSH to OPEN' (Fig.3).
- Push firmly towards arrow until smoke alarm unhinges from base plate.



(Fig.3)



Installation

- This Smoke Alarm can only interconnect with other alarms of the same model. Interconnection with other brands may cause damage or result in a shock or fire risk and void warranty.

Installation

- These smoke alarms must be installed by a registered electrician.
- Due to "noise" from electromagnetic interference, no more than 24 of these smoke alarms may be interconnected.
- There are four terminals in the supply terminal block, marked A, E, N, S. 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.
- A total maximum of 250 meters (820 feet) of wire can be used in interconnecting smoke alarms.
- All final sub-circuit conductors including the signal conductor must be a minimum size of 1mm^2 with 250V grade insulation.
- Interconnected Smoke Alarms must be connected to the same final subcircuit.
- 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.
- Do not connect AC power wires to S interconnect terminal. These will damage smoke alarms.
- Do not connect the S interconnect wire to any device, except the S interconnect terminal of the smoke alarm. Otherwise, the smoke alarm will be damaged.
- 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.

Installation

- Terminals are marked as follows:

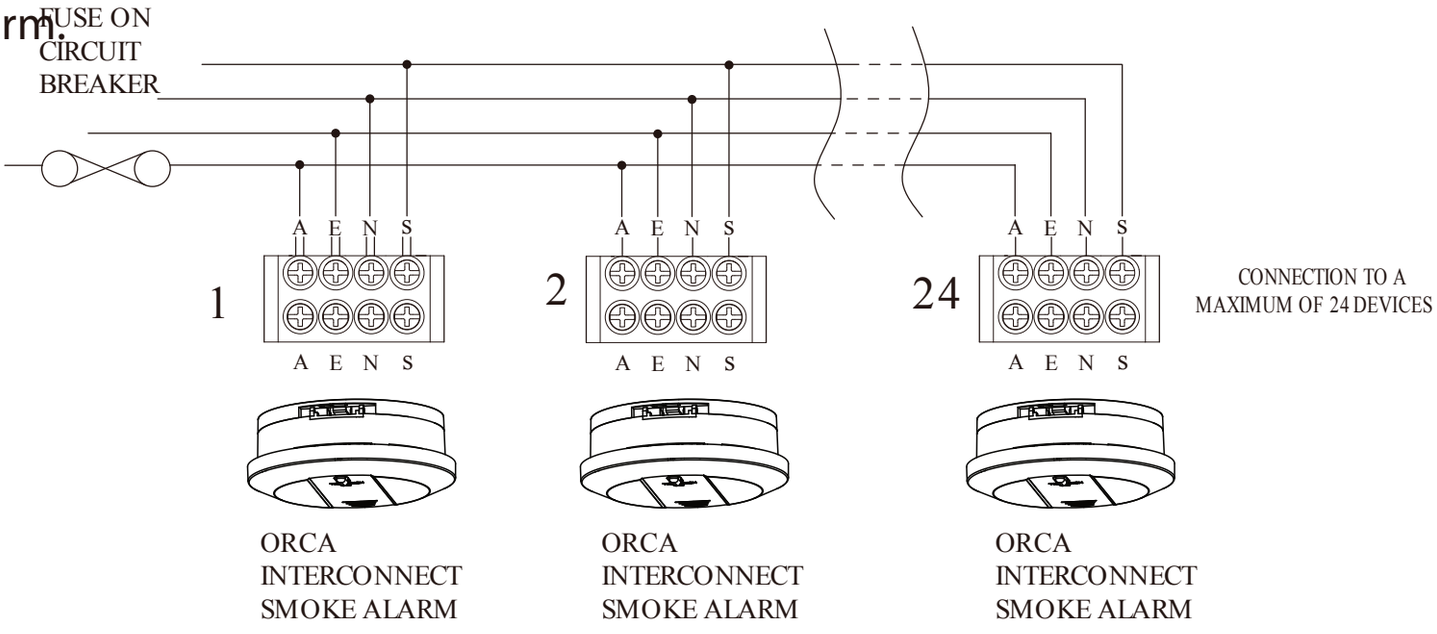
A= ACTIVE

E= EARTH

N= NEUTRAL

S= SWITCH WIRE (FOR INTERCONNECTION ONLY)

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.



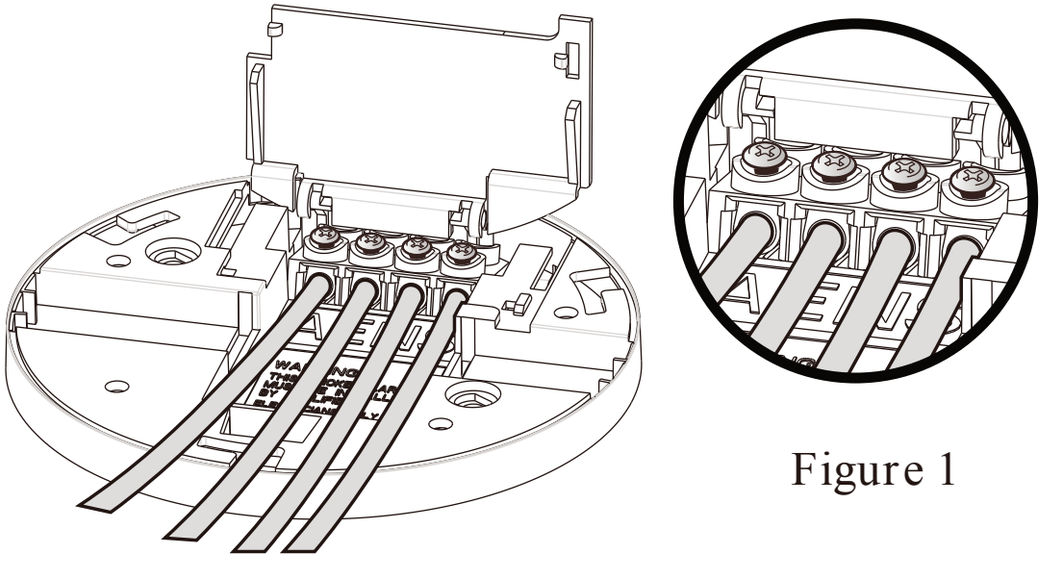


Figure 1

Installation

- When interconnected, all Smoke Alarms will sound upon activation.
- 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.
- Orca recommend that the smoke alarms are installed on their own subcircuit to avoid false alarms and nuisance chirping that may be caused by electromagnetic interferences from other electrical equipment.

Mounting Instructions

- Separate Smoke Alarm from mounting base by sliding cover off.
- Connect supply cable to terminal block and fix terminal cover.
- The models contain a battery pull tab for your convenience. Tab must be removed to activate battery backup and provide power to the unit in the event of mains power loss.
- Pull out the battery pull tab.
- If you want to replace the battery, please press the battery reminder tab down into the battery compartment while inserting the battery. Caution: If the battery reminder tab is not held down in the battery compartment by the battery, the unit will not attach to the mounting plate.
- Align and slide smoke alarm up onto mounting base then slide in the reverse direction of arrow to ensure proper connection.

Installation

- Switch on power and check the green light on alarm cover. It should glow when mains power is switched on indicating that the smoke alarm is properly connected to the mounting base.
- If required, secure Tamper Proof Locking Screw (supplied) to smoke alarm.
- Test alarm by pressing Test button until the alarm sounds.

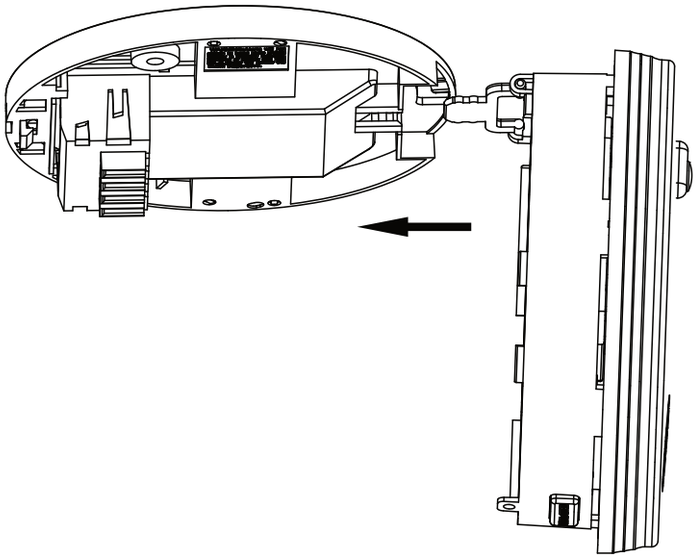


Figure 1: Please insert the smoke alarm's latch into it's base horizontally.

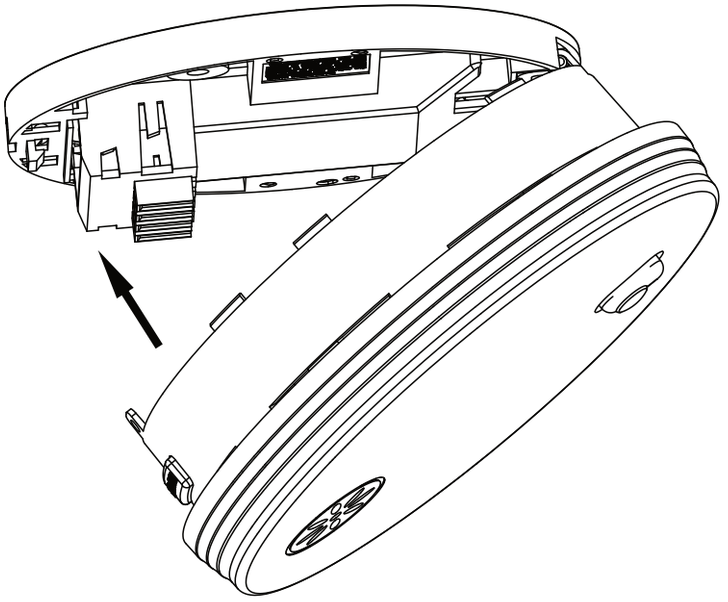


Figure 2: Lock the smoke alarm base along with the spindle. then tighten the screws with a screwdriver (screws (PA3*8) are in the accessory bag).

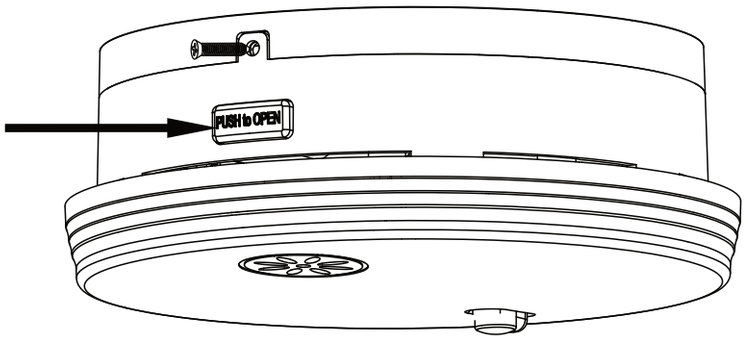


Figure 3: Use a screwdriver to loosen the screw and then press the button to open the battery compartment.

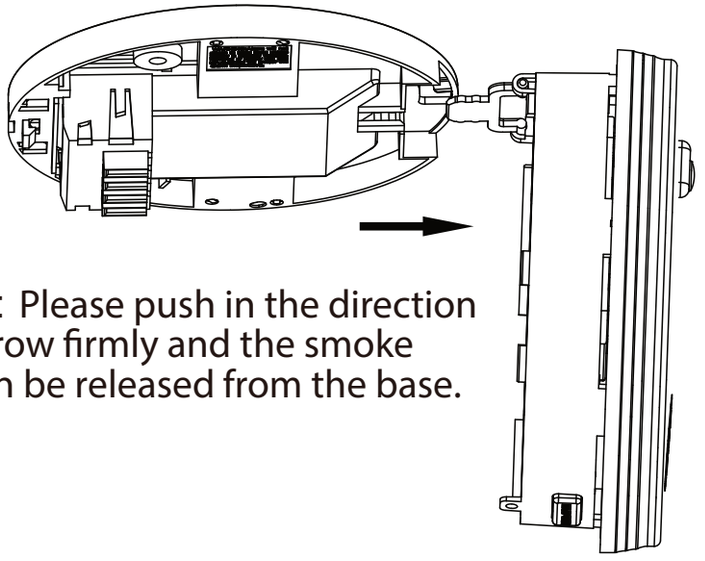


Figure 4: Please push in the direction of the arrow firmly and the smoke alarm can be released from the base.

Installation

Test & Battery Backup

- Alarm will not function without a properly installed battery. It is equipped with a battery lockout feature which prevents the battery door from closing if a battery is not installed correctly (See Figure 5).
- To ensure proper operation, depress the Test button for at least 5 seconds, or until the alarm sounds (without the AC power connected). All interconnected, battery backed-up alarms, should respond.
- Caution: Due to the loudness (85 decibels) of the alarm, always stand an arms-length away from the unit when testing.
- Turn on the AC power. The green LED power indicator should be lit when the alarm is operating from AC power.
- Confirm unit operation by pressing the Test button again.
- The smoke alarm is operating once AC power is applied, a fresh battery is installed and testing is complete. When the smoke alarm senses products of combustion, the horn will sound a loud (85db) alarm until the sensing chamber is cleared of smoke particles.

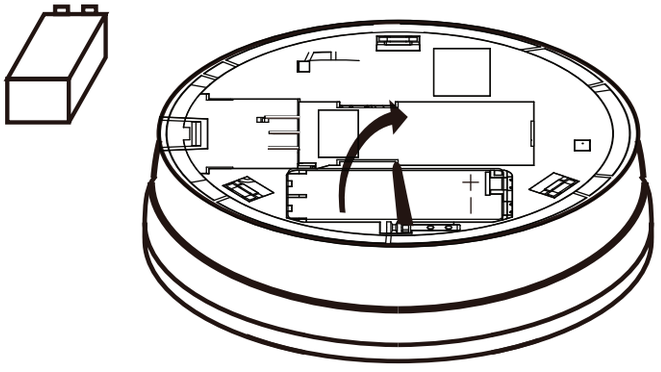


Figure 5

Operation, Testing & Maintenance

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

Red LED

- Stand-by condition: will flash once approximately every 40 seconds to indicate unit is functioning properly.
- Alarm condition: the Red LED will flash once every second. For interconnected units, the initial smoke alarm Red LED will flash once every second. All other units will sound but the Red LED will not be on or flashing.

Green LED

- 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.

False Alarm Hush Control Feature

Note: Dense smoke will over-ride Hush control feature and sound a continuous alarm.

- This smoke alarm has the capability of being temporarily desensitized for approximately 8-10 minutes by pressing the “Test / Hush” button on the smoke alarm.
- After pressing the “Test / Hush” button, the alarm will silence immediately but will automatically reactivate after approximately 8-10 minutes and sound the alarm if particles of combustion are still present.
- The “HUSH” feature may be used repeatedly until the air has cleared.

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

Operation, Testing & Maintenance

Operation

Function	LED Status	Recommendation
Normal	Green light ON.	Green LED indicates the AC mains power is present.
Normal	Red light FLASHING every 33 seconds.	Red LED flashes every 33 seconds if normal. The smoke alarm performs a self test every 33 seconds. The battery and electronics is tested for the life of the unit.
Alarm mode	Red light flashing once every second. Smoke alarm activated.	Repeat 3 long beeps (ISO8201) that indicate smoke alarm has activated and is in alarm mode.
Alarm mode	Red light is OFF. Smoke alarm activated.	Smoke alarm in full alarm, repeat 3 long beeps (ISO8201). Other interconnected units may have activated the alarm. Check other smoke alarms or devices.
Hush mode	Green light ON. Red light flashes every 10 seconds and no chirp.	The “HUSH” feature has the capability of temporarily desensitizing the alarm circuit fo approximately 8 minutes.
Low Battery	Green light ON, Flashing red light every 33 seconds.	Smoke alarm chirps every 33 Seconds. May indicate low battery status. Replace the battery.

Battery Installation, Replacement & Test

Battery Installation

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.

The smoke alarm has a low battery indicator that will cause the unit to chirp and flash the Red LED at approximately 33 second intervals for a minimum of 30 days. Missing battery with main power connected will cause the unit to chirp and flash the Red LED at approximately 33 second intervals.

Replace battery when chirping occurs.To ensure proper operation, the battery should be replaced once a year.

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.

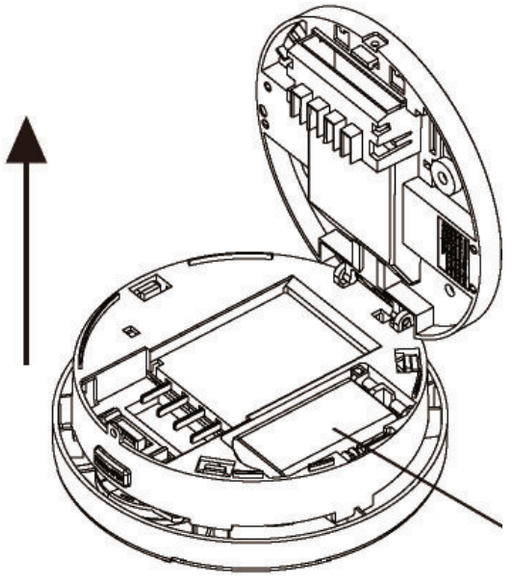
Use only the following 9 volt batteries for smoke alarm replacement.

Alkaline Type: ENERGIZER 522, DURACELL MN1604, MX1604

Carbon Zinc Type: Gold Peak 1604E.

These batteries can be purchased at your local retail outlet or supermarket.

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



Battery Installation, Replacement & Test

- Use only batteries specified on the label.
- 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.

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

- Switch off mains power. The Green LED on the smoke alarm will be OFF.
- Test alarm by pressing the Test Button for a few seconds. This should sound the alarm.
- If the battery module has a fault, the alarm will chirp every 33 seconds.
- Watch the Red LED for about 33 seconds. It should flash at least once.
- Switch on mains power only when smoke alarm passes the above tests. The Green LED on the smoke alarm will come ON.

Note: Weekly testing is recommended!

Repairs & Services

- 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.

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:

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

The Limitations of Smoke Alarms

- Smoke alarms are devices that can provide early warning of possible developing fires at a reasonable cost.
- Smoke alarms have certain limitations. For battery powered smoke alarms, the battery must be in good condition and installed properly.
- 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.

The Limitations of Smoke Alarms

- Smoke alarms must be tested regularly to ensure that the batteries and alarm circuit are in good operating condition.
- 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.
- 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.
- Smoke alarms have been significant in saving lives in many parts of the world. Hence, the use of this product does not substitute for basic prevention and total protection.
- Although smoke alarms can help save lives by providing early warning of a fire, they are not a substitute for an insurance policy.
- 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.
- Heat alarms are available to offer greater security when used with smoke alarms.
- Life safety from fire in residential occupancies is based on early notification to occupants of the need to escape, followed by appropriate egress actions by occupants. Fire warning systems for dwelling units are capable of protecting about half of the population in potentially fatal fires. Victims are often intimate with the fire, too old, young, or physically, mentally impaired that they cannot escape even when warned early that escape should be possible. For these people, other strategies such as protection-in-place or assisted escape or rescue are necessary.

Develop & Practice a Plan of Escape

Basic Escape Plan:

- 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.
- Have a family meeting and discuss your escape plan, showing everyone what to do in case of fire.
- Determine a place outside your home where all of you can meet, if a fire occurs.
- Familiarize everyone with the sound of the smoke alarm and practice leaving your home when they hear it.
- 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!
- 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.
- 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.

What to do when the Alarm Sounds

- Alert small children in the home.
- Leave immediately by your plan of escape. Every second counts, so don't waste time getting dressed or picking up valuables.
- 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 alternative 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.
- Stay close to the floor if air is smoky. Breathe shallowly through a wet cloth if possible.
- Once outside, go to your selected meeting place and make sure everyone is there.
- Call the Fire Brigade from your neighbour's home - not from yours!
- 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.

Installer Please Note

- Before you connect the mains power, check wiring polarity.
- Please check battery is correctly connected and fully charged over 8.0 Volts.
- If the alarm 'chirps' again, press the Test button to check the battery condition.
- If 'chirps' persist, replace smoke alarm and return to your supplier for replacement.

Warning: Insulation Test

- Under no circumstances must an insulation resistance test be carried out on a circuit to which a smoke alarm is fitted.
- This test could cause irreparable damage to the internal circuitry of the smoke alarm and make it inoperative.
- The warranty would be void under such circumstances.

Warranty and Liability

- Newfield Group Ltd warrants this product for a period of seven years from the date of purchase, as reflected on the Authorised Reseller's or Distributor's invoice / receipt provided to you. Newfield Group Ltd will repair or replace the product (at the option of Newfield Group Ltd) due to any manufacturing defect, at the cost of Newfield Group Ltd (excluding any labour costs relating to removal or re-installation of product, and transport costs).
- This warranty shall not apply to the product if it has been damaged, modified, abused or altered after the date of purchase, or if it fails to operate due to improper maintenance.
- To the extent permitted by law, the liability of Newfield Group Ltd arising from the sale or under the terms of this limited warranty shall not in any case exceed the cost of replacement and subject to this clause. In no case shall Newfield Group Ltd be liable for consequential loss or damages resulting from the failure of the product or breach of this, or: Any other warranty, express or implied, loss or damage caused by failure to abide by the instructions supplied.

- To the extent permitted by law, Newfield Group Ltd makes no warranty, expressed or implied, written or oral, including that of merchantability or fitness for any particular purpose, with respect to the consumer replaceable battery if any.
- This warranty is provided in addition to other rights and remedies you have under law:

  Our goods come with guarantees that cannot be excluded under the New Zealand Consumer Law. You are entitled to a replacement or refund if the product fails. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality.
- To make a claim under warranty, take the product (with a proof of purchase) to the store where you purchased the product or contact Newfield Group Ltd via Email: sales@newfield.co.nz with details along with a copy of proof of purchase.

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 been tested and complies to AS3786:2014

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