SmokeSight Residential Smoke Alarm

By Redbusbar

Part Number: SS10MAMA
Description: 240 VAC Mains Power Photoelectric Smoke Alarm with Option Card & 4xAA 1.5VDC Battery Backup

PLEASE LEAVE THESE INSTRUCTIONS WITH THE OCCUPANT, TO BE RETAINED FOR THE LIFE OF THE ALARM.
THIS SMOKE ALARM MUST BE INSTALLED BY A LICENSED ELECTRICIAN.

1 Read all Instructions before Installation and Operation

Regular testing of this smoke alarm is necessary to ensure the unit is functional and that the battery is in good condition. It is recommended that the smoke alarm be replaced after 10 years of normal service. The only user-serviceable parts are the replaceable backup batteries. Refer to 'Replacing the Backup Batteries'.

DANGER

RISK OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- This product must only be installed and serviced by appropriately qualified and/or licenced electrical personnel.
- This product must only be used for the purpose described in these instructions and must be installed in accordance with the local regulations.
- Hazardous voltages may be present at wires connected to this product.
- Before working on this product, isolate the electrical supply.
- Ensure that the product has been correctly installed and tested for safe operation before reconnecting the electrical supply.

Failure to comply with these instructions may result in death or serious injury.

CAUTION

EQUIPMENT INSTALLATION HAZARD

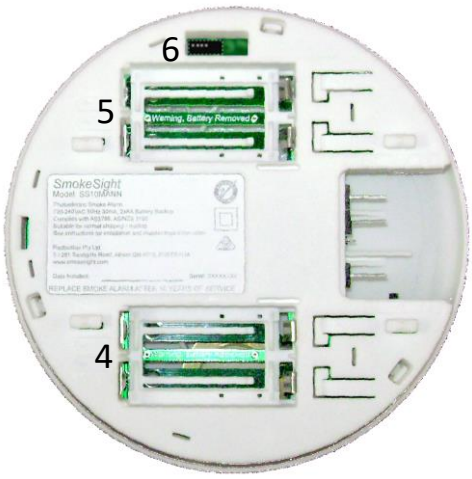
- This alarm cannot be operated from power derived from a square wave, modified square wave or modified sine wave inverter. These inverters are sometimes used in off grid installations such as solar or wind power sources. They produce high peak voltages that will damage the alarm.
- Ensure that the mains supply, active and neutral is wired to the correct terminals.
- Ensure that green LED is ON when mains supply is on.
- Ensure that red LED is not fast flashing.
- Smoke Test each interlinked alarm. Check to ensure every interlinked alarm, alarms correctly. If any unit fails to alarm, check all wiring and connections.

Failure to follow these instructions may result in equipment damage or injury.

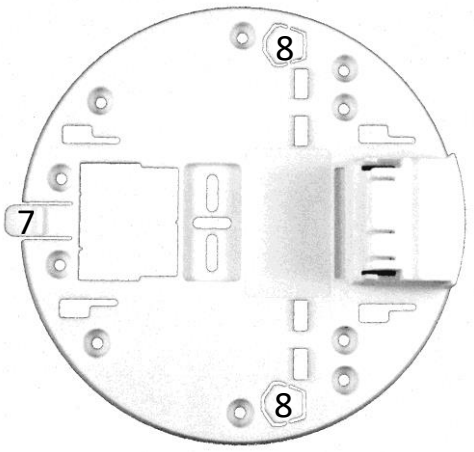
Smoke Alarm – Top View

1. Mains (Green) LED
2. Alarm (Red) LED
3. Option Card (White) LED
4. Smoke Alarm Backup Battery Holder
5. Option Card Battery Holder
6. Option Card Enable Switches

Smoke Alarm – Bottom View

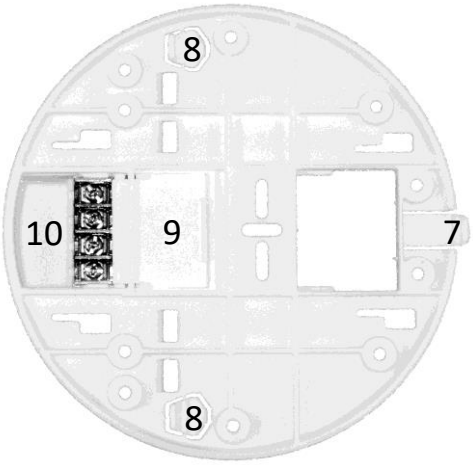


Mounting Base – Top View



7. Locking Tab
8. Tamper Clip
9. Mains Lid
10. Mains, Loop and Interlink Terminals

Mounting Base – Bottom View



2 Specifications

Smoke Alarm

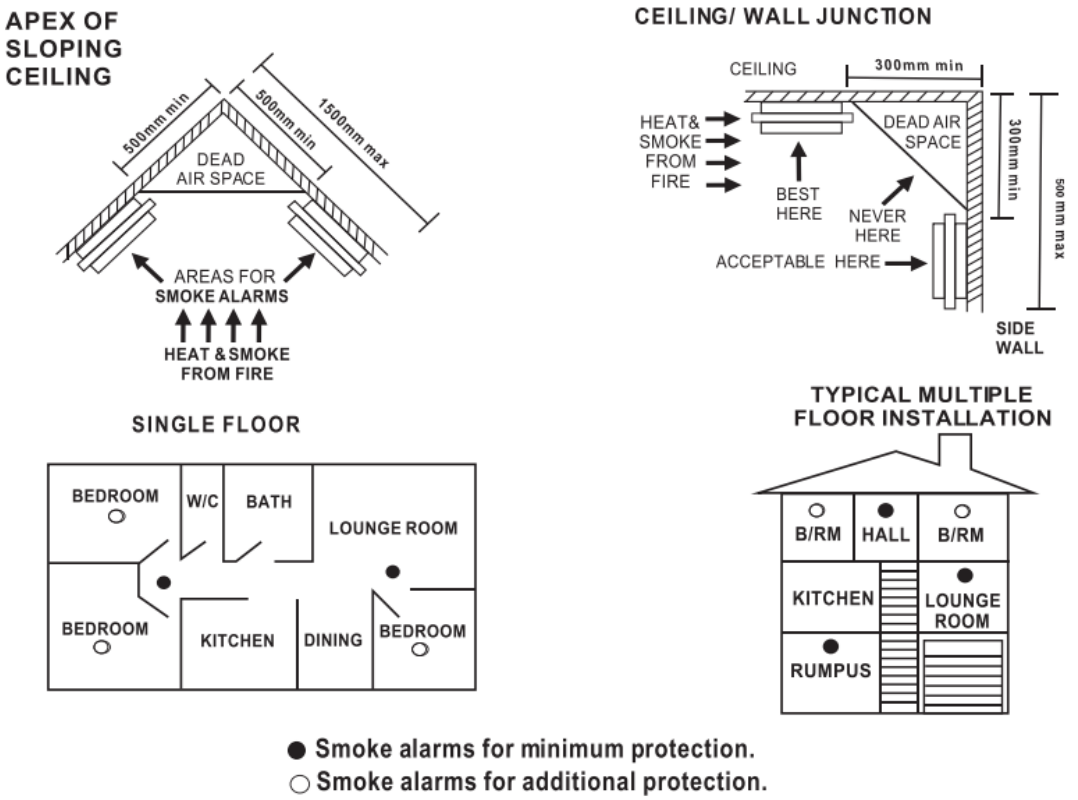
Application	Residential Smoke Alarm for domestic dwellings
Installation	Ceiling or wall mounted
Primary Power Supply	220/240VAC, 50Hz, 30mA
Terminals	4 Screw Terminals Voltage Rating: 300VAC Conductor Size: 2 × 1.5 mm2, min cable size: 1mm2
Secondary Power Supply	2 x 1.5VDC AA Batteries
Sensing Type	Photoelectric. The smoke alarm contains NO radioactive material
Environment	Altitude: 0m to 2,000m Temperature: 0°C to 40°C Humidity: 5% to 95%
Audible Indication	Alarm: 85dBA at 3m, ISO 8201 Battery Low: Chirp
Visual Indication	Mains Supply: Green LED Alarm: Red LED
Interlink	Wired: 40 alarms over 150 metres maximum
Compliance	AS 3786:2014, AS/NZS 60065, AS/NZS 60950.1, IEC 62599.2

Option Card

Application	Radio Interlink, Auto Test, Escape Lighting, Clap Silence
Power Supply	2 x AA Batteries
Interlink	Radio: 24 alarms over 150 metres free air maximum Gateway: 5 isolated, wired alarm segments maximum
Visual Indication	Status, Alert, Escape: White LED
Audible Indication	Alert: 50dBA at 3m Battery Low: Chirp

3 Locations

This smoke alarm can be used in all residential homes and apartments and positioned in accordance with building regulations and state legislation. Refer to figure below when deciding the number of and location of smoke alarms. Avoid dead air space positions. Install smoke alarms along exit paths from bedrooms. Locate alarms in stairways as stairways act as chimneys for smoke and heat. Locate a smoke alarm in any area where a smoker sleeps or where electrical appliances are used in bedrooms. Smoke, heat and other combustion materials rise to the ceiling and spread horizontally. In a residential dwelling, mount the smoke alarm in the centre of the ceiling. In mobile homes, wall mount the smoke alarm on an inside partition to avoid the thermal barrier that may form under the ceiling.



4 Locations to Avoid

- Within 1 metre of air conditioner ducts, ceiling fans and other high air flow areas. Smoke may be blown away or diffused in these areas.
- In areas where the temperature may fall below 0°C or rise above 45°C. Failure to alarm, improper alarms or nuisance alarms may result.
- In damp or very humid areas such as bathrooms or laundries, where the normal humidity may rise above 95% or fall below 5% relative humidity. False alarms and unstable operation may result.
- In areas where particles of combustion are normally present, such as garages or kitchens, as this can cause false alarms.
- In dusty or dirty areas, as an accumulation of dust and dirt in the sensing chamber may block the openings and prevent an alarm, or may cause false alarms.
- Where bugs or insects are present as they may block the openings and prevent an alarm, or may cause false alarms.
- Within 1 metre of electrical noise sources, e.g. fluorescent lights, LED lights and fan motors. Electrical noise may cause nuisance alarms.

5 Wired Interlinked Smoke Alarms

Interlinking smoke alarms ensures that if one alarm senses smoke, all of the connected alarms will operate (alarm). While all interlinked alarms will sound, only the alarm(s) that sensed smoke will fast flash their red LED. A signal is applied to the interlink wire (referenced to neutral) to connect to the other interlinked alarms. This smoke alarm also incorporates radio interlinking functionality. As such it can operate as a gateway device to connect wired and radio interlinked alarms. Refer to 'Installation and Setup' for the interlink connection arrangement.

⚠ CAUTION

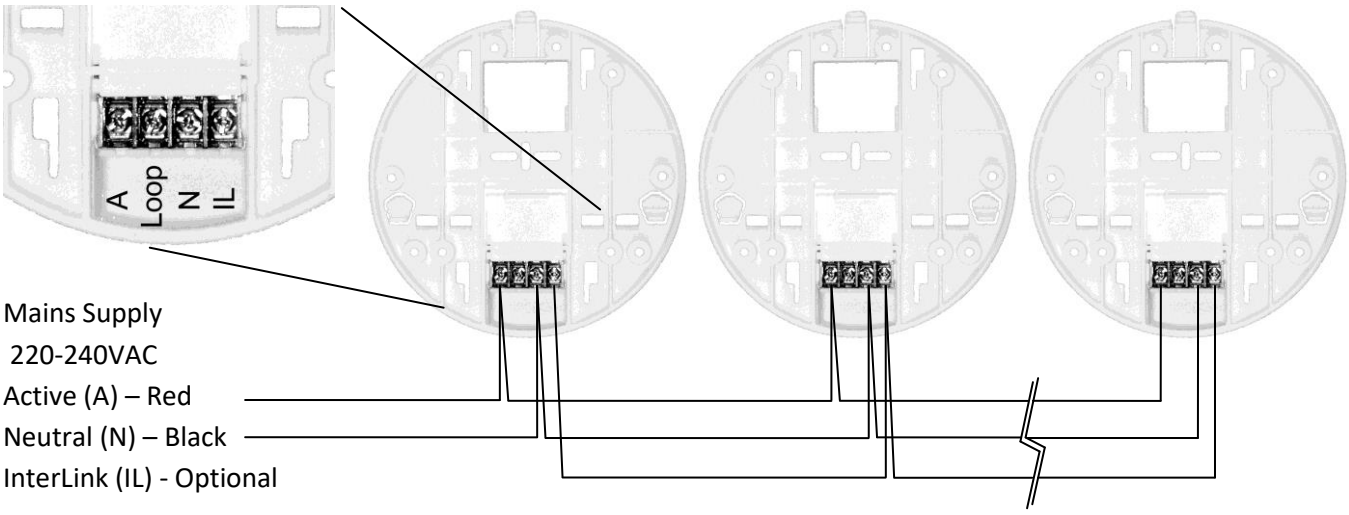
EQUIPMENT INSTALLATION HAZARD

- All interlinked smoke alarms must be supplied from the same circuit. A common Neutral must be used
- DO NOT connect the Interlink wire to Active or Neutral.
- Maximum of 40 interlinked smoke alarms.
- Only SmokeSight alarms can be interlinked.

Failure to follow these instructions may result in equipment damage or injury

6 Installation and Setup

1. If tamper prevention is required, prevents alarm removal without the use of a tool, remove the Tamper Clip from the mounting base by twisting it back and forth until it breaks loose.
2. Strip the Active, Neutral and Interlink (if used) wires. Use a minimum of 1mm^2 250VAC insulated wire for all wiring, including the interlink wiring.
3. Connect the wires to the correct terminals on the base and ensure that the terminal screws are tight.
4. Slide the terminal cover closed to avoid contact with the live terminals.



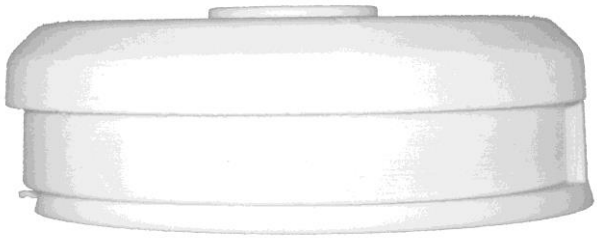
5. Attach the mounting base flat against the surface using appropriate fasteners. Screw diameter 8gauge/4mm.
6. Set/confirm Radio Interlink and/or Auto Test Enable Switches. Refer to Enable Switches for details.
7. If the Radio Interlink feature is required, refer to Option Card - Radio Interlinked Smoke Alarms – Initial Setup.
8. Only if the Radio Interlinked feature was not required, and therefore not setup:
   - Apply option card power by installing 2xAA batteries into the top battery bay of the smoke alarm
   - Apply smoke alarm backup power by installing 2xAA batteries into the bottom battery bay of the smoke alarm

Option Card Batteries

Smoke Alarm Backup Batteries

9. Engage and slide the smoke alarm along the mounting base until it is fully home and it ‘clicks’. The smoke alarm will only travel home and click if the smoke alarm backup batteries are installed. Note: Do not attempt to slide the alarm onto the mounting base unless the smoke alarm backup batteries are installed as damage may result.

Ready to slide



Slide

➔

Engages with a ‘click’

10. Turn on the mains power and check that the green LED illuminates to indicate mains power is present.
11. Press the Test+Hush button to check that alarm and all other interlinked alarms, sound.

The Green LED indicates that mains power is present. The Red LED will flash every 5mins and 45secs and the White LED will flash every 5mins to indicate correct operation.
Installation and Setup is not complete until alarm has been checked for correct operation.

12. If tamper prevention is required, slide the Tamper Clip between the ceiling and the mounting base, locking tab. The Tamper Clip can be removed by gripping it with pliers and pulling the clip away from the smoke alarm.

Loose Tamper Clip

Tamper Clip Installation

Tamper Clip Installed

Installation is not complete until the green, red and white LEDs are functioning correctly and the alarm has been checked for correct operation.

7 Overview

Your smoke alarm comprises two separate sections each powered independently. The smoke module provides smoke sensing, alarming and wired interlinking. The option card provides radio interlinking and smart features. Refer to the relevant sections below for more details. For initial setup of your smoke alarm, refer above to Installation and Setup.

8 Smoke Module

This section relates to smoke alarm operation only. For initial setup of your smoke alarm, refer above to Installation and Setup. For option card operation, refer below to the option card section. Once the mains supply is connected or the backup batteries are installed correctly, the smoke alarm is operational. If smoke is detected the alarm will sound and the red LED will flash rapidly. This will continue until the air is cleared of smoke. During normal operations the red LED flashes once every 5mins and 45secs to indicate that the smoke alarm and battery backup is functional. The green LED is illuminated when the mains power is applied.

8.1 When the Alarm Sounds

1. Alert small children in the home.
2. Leave immediately by your plan of escape. Don't waste time getting dressed or picking up valuables.
3. When 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 the door is cool, place your shoulder against it, open it slightly and be ready to slam it shut if heat and smoke rush in.
4. Stay close to the floor if air is smoky. Breathe shallowly through a wet cloth if possible.
5. Once outside, go to your selected meeting place and make sure everyone is there.
6. Call the Fire Brigade from your neighbour's home - not from yours!
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.

8.2 Testing

TEST THE SMOKE ALARM ONCE PER MONTH TO ENSURE CORRECT OPERATION. Test by pushing the Test+Hush button on the smoke alarm until the alarm sounds. The alarm will sound if all electronic circuitry, siren and battery are functional. Any Interlinked alarms will also sound. If no alarm sounds, check that the battery is installed correctly or replace the battery. If the battery is new and installed correctly and the alarm still doesn't sound, replace the smoke alarm. If the smoke alarm is installed in a mobile home, test weekly and after every journey. After the Test+Hush button has been pressed, wait 10mins before any additional testing is conducted to avoid any false alarm responses as the alarm is in reduced sensitivity mode during this period. Refer to 'Hush'.
IMPORTANT: If premises are unoccupied for a period of time (more than a few days) then a battery test should be undertaken upon return. If the low battery warning sounds, test and replace the battery if necessary.
Never use an open flame of any type to test your alarm. Check that all interlinked smoke alarms operate during the test.

8.3 Hush

This smoke alarm has a built-in Hush feature incorporated into the Test button. If cooking or other non-hazardous sources cause the alarm to sound, it can be temporarily silenced by pressing the Test+Hush button. The alarm then enters a low sensitivity period for 9mins. If the smoke density increases during this period from a smoke or fire event, the unit will go into alarm mode.
Before using the alarm HUSH feature, identify the source of smoke and be certain that a safe condition exists.

8.4 Replacing the Smoke Module Backup Battery

The backup power to the smoke alarm is supplied by 2xAA 1.5VDC alkaline batteries, located in the bottom battery bay of the smoke alarm. The batteries should last a minimum of 5 years under normal operating conditions. An audible chirp once every 40 to 50 secs indicates that the battery needs to be replaced. Pressing the Test+Hush button will silence the low battery chirp for up to 8 hours. It is recommended to replace the batteries on a memorable day eg 1st April, April Fool's Day.

RECOMMENDED BATTERIES: Energizer E91, Duracell MN1500, Fujitsu LR6
TEST THE OPERATION OF THE SMOKE ALARM BY PRESSING THE TEST+HUSH BUTTON AFTER BATTERY REPLACEMENT

9 Option Card

This section relates to option card operation only. For initial setup of your smoke alarm, refer above to Installation and Setup. For smoke alarm operation, refer above to the smoke alarm module section. This smoke alarm incorporates an option card that supports the following features:

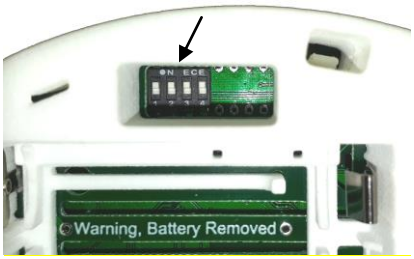
- Auto Test – Automatic alarm, scheduled self-testing
- Clap Silence - Hush a false smoke alarm with a hand clap
- Escape Lighting –Escape path visibility during an alarm
- Radio Interlink – Allows one smoke alarm to activate all smoke alarms wirelessly

During normal operations the white LED flashes once every 5mins to indicate that the option card and battery backup is functional. Refer to the option card manual for detailed option card operation and configuration details.

9.1 Enable Switches

Some functions require activation using enable switches accessible through the base of the smoke alarm. Changing of any switch will require removing power to the option card for 1min before repowering.

Enable Switches



Switch Assignment

Switch	Function
1	Radio Interlink
2	Auto Test
3	Spare
4	Spare

9.2 Radio Interlinked Smoke Alarms

Interlinking smoke alarms ensures that if one alarm senses smoke, all of the alarms connected to the radio network will operate (alarm). The smoke alarm, radio interlink is a separate network that the smoke alarms establish. Refer to the option card manual for detailed option card operation and configuration details.

9.2.1 Initial Setup

For correct network setup please follow this procedure closely. A video of the procedure is available on the website support pages.

1. Before powering any smoke alarm, place all smoke alarms and their 2xAA option card batteries on a table.
2. Confirm that the Radio Interlink switch is set to ON for each alarm. Refer to Enable Switches for details.

3. Apply option card power to the first smoke alarm by inserting its batteries into the top battery bay of the smoke alarm. The alarm will listen for networks for 30secs during which the white LED will flash every 2secs. It will then allocate a unique Home ID to this network and assign itself as the master node confirmed by 1 Beep/Flash for 3secs. Then it will 5flash + 5beep every 10secs.

4. Apply option card power to the second smoke alarm by inserting its batteries into the top battery bay of the smoke alarm within 2mins. The alarm will listen for networks during which the white LED will flash every 2secs. It will then 1 Beep/Flash for 1sec confirming that it has joined the network as a slave and then 5flash + 5beep every 10secs.
5. Repeat step 4 above on the next alarm, and each subsequent alarm, taking care to only apply option card power to each alarm after confirmation that the previously powered alarm has joined the network.
6. Apply smoke alarm power by installing 2xAA batteries into the into the bottom battery bay of the smoke alarm (see 'Replacing the Smoke Alarm Backup Battery') on each alarm.
7. To complete the network setup either 4Tap any node's Test+Hush button or wait 2mins.
8. On any alarm press the Test+Hush button to check that this alarm and all other interlinked alarms sound. If not, you will need to perform a 'Return to Factory Defaults' and repeat this 'Initial Setup'. Refer to the option card manual for detailed option card operation and configuration details.
9. Refer back to the 'Installation and Setup' section above to complete the setup

9.3 Auto Test

The Auto Test function provides scheduled, automatic testing of the smoke alarm. Testing consists of momentarily simulating smoke internal to the smoke alarm which activates the smoke alarm's siren. The option card listens for the correct smoke alarm tone and reports an option card alarm if the test failed. The test establishes, on a regular basis, that the smoke alarm's smoke sensor, controller and siren are functional. Test duration is 5secs and can be configured to be performed at a convenient time. The default time is 14days and 0hrs following insertion of the option card batteries. Refer to the option card manual for detailed option card operation and configuration details.

9.4 Clap Silence

If the smoke alarm is in alarm state, two loud hand claps, approximately 0.5 sec apart, from ground level immediately below the alarm is equivalent to pressing the Test+Hush button on that alarm. An alarm in alarm state is evidenced by its red LED flashing rapidly. As clap volume and timing may vary, you may need to repeat clap silence more than once. The alarm must incorporate an option card for clap silence to function.

9.5 Escape Lighting

If the smoke alarm is in alarm state or receives an interlink signal from a smoke alarm that is in alarm state, the option card, white LED flashes in high intensity mode. This feature assists evacuation by illuminating the escape path or could be used to better signal an alarm to a hearing impaired resident.

9.6 Replacing the Option Card Batteries

The power to the smoke alarm option card is supplied by 2xAA 1.5VDC alkaline batteries, located in the top battery bay of the smoke alarm. The batteries should last a minimum of 5 years under normal operating conditions. If you experience white LED flash/beep refer to Troubleshooting below. It is recommended to replace the batteries on a memorable day eg 1st April, April Fool's Day.

RECOMMENDED BATTERIES: Energizer E91, Duracell MN1500, Fujitsu LR6
TEST THE OPERATION OF THE SMOKE ALARM BY PRESSING THE TEST+HUSH BUTTON AFTER BATTERY REPLACEMENT

10 Troubleshooting

The SmokeSight smoke alarm constantly monitors its internal functions to maintain your safety. During normal operations regular LED flashes indicate that the smoke alarm is functional. If it is sounding, either alarming or chirping, note answers to the following questions to diagnose the problem, and your solution:

1. If it's alarming, 3 loud tones repeating every 1.5secs, refer to smoke alarm troubleshooting below.
2. If it's chirping, 1 or more beeps every 40secs and the chirps do not coincide with white LED flashes, refer to smoke module troubleshooting below.
3. If it's chirping, 4 or more beeps every 5mins and the chirps coincide with white LED flashes, refer to option card troubleshooting below.

10.1 Smoke module troubleshooting

	CONDITION	CAUSE	REMEDY / ACTION
ALARMS & TEST+HUSH	Alarm sounds and the red LED is blinking rapidly.	Smoke has activated the smoke alarm	If the cause is unknown, vacate the building immediately and call the Fire and Emergency Services. If the cause is known to be a false alarm, see "False Alarm" section below.
	Alarm sounds but the red LED is OFF.	Smoke has activated an interlinked alarm, located somewhere else in the dwelling.	
	Smoke alarm is sounding, it does not stop when Test+Hush is pressed.	Smoke density is too high, even in low sensitivity mode, for the Hush feature to activate.	
	Smoke alarm is sounding, it stops when Test+Hush is pressed.	Low sensitivity mode has been activated for 9mins	Make sure you are safe and have eliminated the source of the smoke. See "False Alarm" section below.
	While the Test+Hush button is pressed the alarm sounds	The smoke alarm is indicating that all electronic circuitry, siren and battery are functional	Normal test condition. Test regularly to ensure proper operation
	While the Test+Hush button is pressed the alarm does not sound	The smoke alarm may not be operating correctly	Check that the green LED is ON and the red LED flashes once every 5mins. If problem persists contact an electrician for replacement.
CHIRP	1 chirp every 43secs (no LED flash)	Low battery warning	Replace the 2xAA 1.5VDC batteries. Press the Test+Hush button to silence the low battery chirp for up to 8 hours.
	3 chirps every 43secs (no LED flash)	The smoke alarm's, smoke sensor is not operating correctly	Clean smoke alarm according to "Maintenance, Repairs and Service" section. If problem persists contact an electrician for replacement.
LED	Green LED ON.	240VAC mains supply ON	Normal operating condition
	Green LED OFF.	240VAC mains supply OFF	Check that mains power is ON. Main circuit breaker may have tripped. Wiring could be incorrect.
	Red LED flashes every 5mins and 45secs.	The smoke alarm is functioning correctly	Normal operating condition.
	Red LED flashes every 8 to 12secs.	The smoke alarm is in low sensitivity mode. Test+Hush button has been pressed	Wait 10mins to return to normal operating mode.
OTHER	Smoke alarm will not slide along the base until it clicks.	Battery or batteries missing	Install missing battery or batteries

10.1.1 False Alarm

In the event of a false alarm (alarms are sounding without any smoke present):

1. Identify which smoke alarm/s are in alarm state – Look for the alarm/s sounding and with red LED fast flashing.
2. On each smoke alarm in alarm state press the Test+Hush button to silence the alarm
3. Disconnect all smoke alarms in the alarm state by removing them from their base.

4. Clean smoke alarms in accordance with the “Maintenance, Repairs and Service” section.
5. Re-install and test all the smoke alarms.

10.2 Option card troubleshooting

If the option card is unresponsive to a tap of the Test+Hush button ie no white LED flash or beeps then install/replace the option card batteries. An active alert is reported every 5mins. A 1 Tap of the Test+Hush button will report the active alert and silence the chirps for 8 hours. After tapping once, 1 long LED flash/beep followed by the active alert is reported. Further 1 taps during this silence period will report the active alert again and restart the 8 hour silence period. The 8 hour silence period continues even if the active alert clears.

<table>
<tr><th>ALERT</th><th>CAUSE</th><th colspan="2">REMEDY / ACTION</th></tr>
<tr><td>4 chirps/white LED every 5mins</td><td>Low battery warning.</td><td colspan="2">Replace the 2xAA 1.5VDC batteries. Press the Test+Hush button to silence the low battery chirp for up to 8 hours.</td></tr>
<tr><td>5 chirps/white LED every 5mins</td><td>Radio Interlink Loss (Slave Lost) – After < 30mins</td><td>Identify all the slave node(s). Press Test+Hush on each slave to confirm alarm interlink function. Failure of alarm interlink function on a slave identifies this slave is lost. Relocate the failed slave to within 5m from the master. Wait 5 mins for the network to heal and the radio interlink alerts to stop. If successful, consider an alternate final location for slave alarm</td><td rowspan="2">If the adjacent remedy for slave or master lost does not stop option card, radio interlink alerts, rebuild the network by performing a ‘Return to Factory Defaults’ on each alarm. Then, rebuild the radio interlink network using the ‘Initial Setup’ process. Alarms not able to join the network should be replaced.

Refer to the option card manual for detailed option card operation and configuration details</td></tr>
<tr><td>6 chirps/white LED every 5mins</td><td>Radio Interlink Loss (Master or Network Lost) – After < 10mins</td><td>Identify the master node. Press Test+Hush on the master to confirm alarm interlink function. Failure of alarm interlink function on the master confirms the master is lost. Relocate the failed master to within 5m of a slave. Wait 5 mins for the network to heal and the radio interlink alerts to stop. If successful, consider an alternate final location for master alarm</td></tr>
<tr><td>7 chirps/white LED every 5mins</td><td>Auto Test Fail</td><td colspan="2">Clean the Option card battery terminals and replace the 2xAA 1.5VDC batteries. Press the Test+Hush button and confirm smoke alarm sounding. If it fails to sound, replace the smoke alarm. If it sounds but fails subsequent Auto Tests, either disable Auto Test and perform manual tests for the remaining life of the alarm, or replace the smoke alarm.</td></tr>
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11 Maintenance, Repairs and Service

It is recommended that the smoke alarm is inspected monthly to ensure it is free from dust, fibres and insects.

11.1 Cleaning

1. Remove smoke alarm power
2. Clean the sensor chamber using a vacuum or can of compressed air. Do not use an air compressor as it will damage the smoke alarm as the air is not dry or clean. Place the nozzle near the alarm lip, adjacent to the wording “To remove – Push rear tab <<< slide” and slanted upwards toward the cover.
3. Turn the smoke alarm over (top cover facing down) and repeat the clean
4. Tap the smoke alarm lightly on a hard surface to dislodge attached foreign bodies
5. Repeat the clean
6. Turn the smoke alarm over (top cover facing up)
7. Repeat steps 4 and 5
8. Apply smoke alarm power and wait for 1 minute
    a. If the alarm starts sounding the smoke alarm has not/cannot be cleaned properly
    b. If the alarm does not sound reinstall the cleaned smoke alarm

ALWAYS TEST THE SMOKE ALARM AFTER CLEANING.

If the smoke alarm is defective in any way, do not tamper with the smoke alarm. The smoke alarm does not contain any user-serviceable parts. As the smoke alarm does not contain any radioactive material, disposal with domestic rubbish is permitted in Australia and New Zealand.

12 Warranty

Redbusbar Pty Ltd, warrants this product to be free from defects in materials and workmanship for a period of 5 (five) years from the date of installation. Refer to the Redbusbar terms of sale for full warranty conditions http://www.redbusbar.com/Terms-and-Conditions.html

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