

SmokeSight Residential Smoke Alarm

By Redbusbar

Part Number: SS10MAMA & SS10LNAN

Description: Photoelectric Smoke Alarm with Option Card

1 Overview

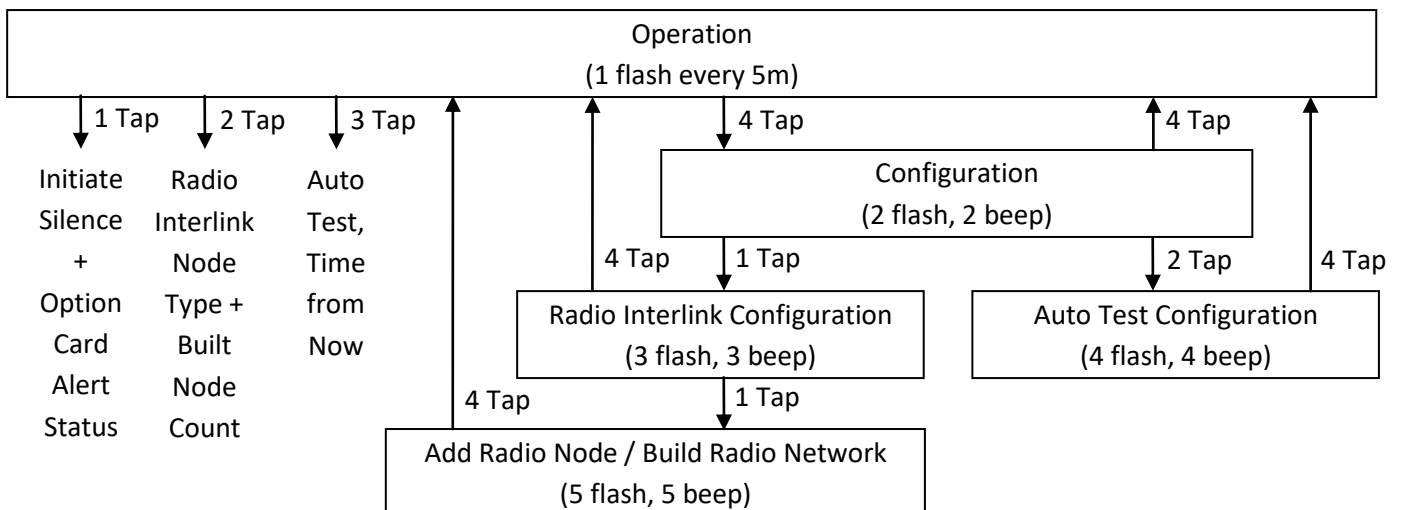
Your smoke alarm comprises two separate sections each powered independently. The smoke module provides smoke sensing, alarming and wired interlinking. The option card provides radio interlinking and smart features. This manual relates to the operation and configuration of the option card only. For smoke alarms installation and operation details refer to the relevant installation and operation manual for the specific smoke alarm part number.

2 Option Card Module

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. The option card functions in two modes. In operation mode the option card displays option card alerts as well as accepts and responds to status requests. In the various configuration modes the option card functions can be setup. Option card status requests and configuration commands are made using sequential quick taps on the Test+Hush button. Responses from the option card include status, white LED flashes and beeps. Command success is reported by one long flash/beep while command failure is reported by two long flashes/beeps. The current configuration mode (menu) is reported every 10secs if no command is received. If no command is received for a period of 2mins while the alarm is in a configuration mode, the option card returns to the operation mode. The modes are navigated as follows:



Detailed information regarding the mode options follows:

2.1 Operation Mode

Command (Taps)	Description	Response (White LED Flashes, Beeps)
0	Operation Mode Active	1flash every 300sec
1	If alert active - Initiate Silence, Option Card Alert Status, Refer to Option Card Trouble Shooting. If alert inactive, silence not initiated, 2 long Beep/Flash.	1 long Beep/Flash + Option Card Alert Status
2	Radio Interlink Status, Node Type (master = 1 Beep/Flash for 3secs <u>or</u> slave = 1 Beep/Flash for 1sec) + Built Node Count (node count = number of Beeps/Flashes). If network disabled 2 long Beep/Flash	Built Node Type + Built Node Count
3	Auto Test Status, Time from Now. If AutoTest disabled 2 long Beep/Flash	Day Count + Hour Count to next AutoTest
4	Configuration Mode	-

2.2 Configuration Mode

Command (Taps)	Description	Response (White LED Flashes, Beeps)
0	Configuration Mode Active	2flash + 2beep every 10sec
1	Radio Interlink, Configuration Mode – Requires Radio Interlink Switch = ON	-
2	Auto Test, Configuration Mode - Requires Auto Test Switch = ON	-
3	Spare	-
4	Return to Operation Mode	-
5 pause 5	Return to Factory Defaults	Pause for 1flash + 1beep

2.3 Radio Interlink Configuration Mode

Command (Taps)	Description	Response (White LED Flashes, Beeps)
0	Radio Interlink, Configuration Mode Active	3flash + 3beep every 10sec
1	Add Radio Node / Build Radio Network Mode	-
2 pause 2	Remove Slave Radio Node (not for removal of this node)	Pause for 1flash + 1beep
3 pause 3	Delete Radio Network	Pause for 1flash + 1beep
4	Return to Operation Mode	-

2.4 Add Radio Node / Build Radio Network Mode

Command (Taps)	Description	Response (White LED Flashes, Beeps)
0	Add Radio Node / Build Radio Network Mode Active	5flash + 5beep every 10sec
4	Return to Operation Mode	-

2.5 Auto Test Configuration Mode

Command (Taps)	Description	Response (White LED Flashes, Beeps)
0	Radio Interlink, Configuration Mode Active	4flash + 4beep every 10sec
1	Weekly Frequency – Following 1 long flash beep, Tap 1,2,3	-
2	Days from Today – Following 1 long flash beep, Tap 1 to 7	-
3	Hours from Now – Following 1 long flash beep, Tap 1 to 24	-
4	Return to Operation Mode	-

2.6 Enable Switches

Some functions require activation using enable switches accessible through the base of the smoke alarm. Following activation of each function using the enable switches, configuration of the function is performed using the Test+Hush button and white LED to navigate the applicable configuration mode. 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

2.7 Return to Factory Defaults

This function returns the alarm to the factory defaults.

1. Ensure that the Test+Hush button is active by pressing the Test+Hush button and confirming that the smoke alarm sounds. If it doesn't alarm insert batteries into the backup (bottom) battery bay and retry.
2. Insert the batteries into the option (top) battery bay.
3. Select 'Configuration Mode'. From 'Operation Mode' this can be achieved by 4Tap of the Test+Hush button. Confirmation of this mode is reported by 2flash+2beep every 10 seconds.
4. Commence 'Return to Factory Defaults' by 5Tap, pause for one beep, 5Tap of the Test+Hush button.
5. The white LED will flash every 2secs confirming that it has restarted the 'Initial Setup'
6. Remove the batteries from the option (top) battery bay within 10secs
7. Repeat steps 1 to 6 above on each alarm

2.8 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. A problem with a Wi-Fi network, for instance, will not affect operation of the radio interlink. The radio interlink, enable switch is required to be switched ON to allow network configuration and operation of each alarm that will be connected to the radio link network. Once the radio interlink network has been configured, it is saved internally such that replacing option card batteries will not result in loss of the configuration. Access to Radio Interlink, Configuration Mode is only possible if the Radio Interlink switch is switched to ON. The radio interlink network comprises one master node and one or more slave nodes. The node type (master = 1 Beep/Flash for 3secs, slave = 1 Beep/Flash for 1sec) followed by built node count (node count = number of Beeps/Flashes) can be determined in the operation mode. Failure of any node will not prevent alarm transmission as the network is self-healing.

2.8.1 Wired and Radio Interlinked Smoke Alarm Network

Where an installation incorporates both wired and radio interlinked smoke alarms (hybrid networks), special care is needed during setup to avoid an "alarm signal loop". An alarm signal loop causes all alarms to sound, without

stopping, once one alarm has activated. To stop the alarms sounding, all wire interlinked alarms must be removed from their bases to break the loop. An easy way to avoid an alarm signal loop is to ensure that no more than one wired and radio interlinked (SS10MAMA) smoke alarm in the dwelling, has its radio interlink enabled. Refer to the Enable Switches section above. Exceptions to this rule include very large dwellings or where difficult radio paths exist. In this case, use of multiple radio networks linked by wired alarm segments can provide the solution.

2.8.2 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 in the dwelling where they will be installed. Do not setup in a dwelling different to the final installation dwelling.
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 a network that is in 'Add Radio Node / Build Radio Network Mode' 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 enter 'Add Radio Node / Build Radio Network Mode' indicated by 5flash + 5beep every 10secs.
4. After confirmation that the master has established the network, apply option card power to the second smoke alarm by inserting its batteries into the top battery bay of the smoke alarm within 2mins of the confirmation. The alarm will listen for a network that is in 'Add Radio Node / Build Radio Network Mode' 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 enter 'Add Radio Node / Build Radio Network Mode' indicated by 5flash + 5beep every 10secs.
5. Repeat step 4 above on the next alarm, and each subsequent alarm, on your network taking care to only apply option card power to each alarm following confirmation that the previously powered alarm has joined the network.
6. Apply smoke alarm power on the SS10MAMA by installing 2xAA batteries into the into the bottom battery bay of the smoke alarm on each alarm. Apply smoke alarm power on the SS10LNAN by sliding the 'smoke alarm power switch' to the 'I' position (toward the centre of the alarm) on each alarm.
7. Once all alarms have been configured they will all be placed into 'Operation Mode' 2mins after the last alarm has joined the network as a slave or by 4Tap of any node's Test+Hush button to exit 'Add Radio Node / Build Radio Network Mode'. On any alarm confirm that the built node count reported in 'Operation Mode' agrees with your expected node count. If not, you will need to perform a 'Return to Factory Defaults' above and repeat this 'Initial Setup'.
8. Refer back to the 'Installation and Setup' section above to complete the setup



2.8.3 Configuration options after Initial Setup

2.8.3.1 Build Radio Network

If you are powering up your smoke alarm and setting up the radio interlink network for the first time use the 'Initial Setup' above procedure. Use this procedure if your network is not functioning correctly and it is not convenient to perform individual 'Return to Factory Defaults' on each smoke alarm eg the smoke alarms are mounted on a high ceiling. 'Return to Factory Defaults' would allow the 'Initial Setup' procedure to be repeated. It is assumed that the Radio Interlink switch is set to ON for the smoke alarm(s) requiring this function.

1. Confirm that either no or only one network exists by proceeding to each smoke alarm and securing its node type + built node count. From 'Operation Mode' this can be achieved by 2Tap of the Test+Hush button. Any alarm

reporting a node count less than another alarm's node count should have its network deleted using 'Delete Radio Network'. Alarms reporting only one node do not belong to a network so they don't need to be deleted.

2. At any smoke alarm select 'Add Radio Node / Build Radio Network Mode'. From 'Operation Mode' this can be achieved by 4Tap, 1Tap, 1Tap of the Test+Hush button. The alarm will listen for a network that is in 'Add Radio Node / Build Radio Network Mode' for 30secs during which the white LED will flash every 2secs. If a network is not detected, this alarm will allocate a unique Home ID to this network and assign itself as the master node. It will then 1 Beep/Flash for 3secs confirming that it has established a network as the master and enter 'Add Radio Node / Build Radio Network Mode' indicated by 5flash + 5beep every 10secs. If a network is detected but this alarm is not a member, this slave node will then 1 Beep/Flash for 1sec confirming that it has joined the network as a slave and enter 'Add Radio Node / Build Radio Network Mode' indicated by 5flash + 5beep every 10secs. If this alarm is already part of the network it will simply enter 'Add Radio Node / Build Radio Network Mode' indicated by 5flash + 5beep every 10secs.
3. Proceed to the next alarm that is not indicating it is active in 'Add Radio Node / Build Radio Network Mode' indicated by 5flash + 5beep every 10secs and select 'Add Radio Node / Build Radio Network Mode'. From 'Operation Mode' this can be achieved by 4Tap, 1Tap, 1Tap of the Test+Hush button within 2mins of the previous node being established. This slave node will then 1 Beep/Flash for 1sec confirming that it has joined the network as a slave and enter 'Add Radio Node / Build Radio Network Mode' indicated by 5flash + 5beep every 10secs.
4. Repeat step 3 above on the next alarm, and each subsequent alarm, on your network taking care to only add each alarm following confirmation that the previously powered alarm has joined the network as a slave.
5. Once all alarms have been configured they will all be placed into 'Operation Mode' 2mins after the last alarm has joined the network as a slave or by 4Tap of any node's Test+Hush button to exit 'Add Radio Node / Build Radio Network Mode'. On any network alarm confirm that the built node count reported in 'Operation Mode' agrees with your expected node count.

2.8.3.2 Add Radio Node

This function adds a new alarm node to an existing network. Refer to 'Initial Setup' or 'Build Radio Network' if you are setting up an entire network.

1. Before powering the smoke alarm that you wish to add, select 'Add Radio Node / Build Radio Network Mode' on any networked alarm. From 'Operation Mode' this can be achieved by 4Tap, 1Tap, 1Tap of the Test+Hush button. All alarms on the network will enter 'Add Radio Node / Build Radio Network Mode' indicated by 5flash + 5beep every 10secs.
2. Apply option card power to the new smoke alarm by inserting its option card batteries into the top battery bay of the smoke alarm within 2mins of all network alarms entering 'Add Radio Node / Build Radio Network Mode'. This new slave node will then 1 Beep/Flash for 1sec confirming that it has joined the network as a slave and enter 'Add Radio Node / Build Radio Network Mode' indicated by 5flash + 5beep every 10secs.
3. Repeat step 2 above on the next alarm, and each subsequent alarm, on your network taking care to only apply power to each alarm following confirmation that the previously powered alarm has joined the network as a slave.
4. Once all alarms have been configured they will all be placed into 'Operation Mode' 2mins after the last alarm has joined the network as a slave or by 4Tap of any node's Test+Hush button to exit 'Add Radio Node / Build Radio Network Mode'. On any network alarm confirm that the built node count reported in 'Operation Mode' agrees with your expected node count.

2.8.3.3 Remove Slave Radio Node

This function removes an existing alarm node from an existing network. First check the Node Type (master or slave) of all of the nodes that you wish to remove. From 'Operation Mode' this can be achieved by 2Tap of the Test+Hush button. If one of the nodes you wish to remove is the master you will need to perform 'Delete Radio Network'.

1. If the existing alarm or alarms that you wish to remove are functional perform a 'Return to Factory Defaults' on those alarms only. From Operation Mode this can be achieved by 4Tap, 5Tap, 5Tap of the Test+Hush button on those alarms to be removed only.
2. Remove power to the existing alarm or alarms that you wish to remove from the network.
3. On any remaining smoke alarm select 'Remove Slave Radio Node'. From 'Operation Mode' this can be achieved by 4Tap, 1Tap, 2Tap, pause, 2Tap of the Test+Hush button. The network will then check to see which alarm nodes are active and will remove any inactive alarm nodes from the network. This alarm only will remain in 'Radio Interlink Configuration Mode' as indicated by 3flash + 3beep every 10secs.
4. This smoke alarm will be placed into 'Operation Mode' 2mins after the last tap of the Test+Hush button or by 4Tap of the Test+Hush button. On any network alarm confirm that the built node count reported in 'Operation Mode' agrees with your expected node count.

2.8.4 Delete Radio Network

This function deletes an existing radio interlink network.

1. Select 'Delete Radio Network' on any networked alarm. From 'Operation Mode' this can be achieved by 4Tap, 1Tap, 3Tap, pause, 3Tap of the Test+Hush button. The master node will then remove all alarm nodes, including itself from the network. All alarms will remain in 'Radio Interlink Configuration Mode' as indicated by 3flash + 3beep every 10secs.
2. All smoke alarms will be placed into 'Operation Mode' 1hr after the last tap of the Test+Hush button or by 4Tap of the Test+Hush button. On any network alarm confirm that the built node count reported in 'Operation Mode' agrees with your expected node count.

2.9 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. The Auto Test establishes that only the local smoke alarm, on which the test is performed, is functional. While interlinked alarms may also sound, Auto Test does not confirm operation of interlinked smoke alarms. Access to Auto Test, Configuration Mode is only possible if the Auto Test switch is switched to ON.

2.9.1 Configuration

1. Switch on/Confirm that the Auto Test switch is set to ON. Refer to Enable Switches for details. The factory default, test settings are every two weeks from the day and time that the option card is first supplied with power. Continue with the following steps only if you wish to change Auto Test times.
2. Select 'Auto Test Configuration Mode' - From Operation Mode this can be achieved by 4Tap, 2Tap of the Test+Hush button. Confirmation of this mode is reported by 4flash+4beep.
3. If you wish to alter the test 'Frequency' 1Tap, followed by 1Tap for every week, 2Tap for every two weeks, 3Tap for every four weeks.
4. If you wish to alter the test day 'Days from Now' 2Tap, followed by 1Tap for tomorrow, 2Tap for two days time up to 7Tap for the current day ie 0 days from now.
5. If you wish to alter the test hour 'Hours from Now' 3Tap, followed by 1Tap for 1 hour from now, 2Tap for two hours from now up to 24Tap for the current hour ie 0 hours from now.
6. The smoke alarm will be placed into 'Operation Mode' 2mins after the last tap of the Test+Hush button or by 4Tap of the Test+Hush button. Confirm that the Auto Test Time from Now reported in 'Operation Mode' agrees with your expected test time.

Example

Now: 8am, Tuesday
Desired Auto Test Time: 12 Noon, Friday, Fortnightly
Configuration: Frequency = 2Tap (Fortnightly)
Days from Now = 3Tap (Tuesday to Friday = 3 days)
Hours from Now = 4Tap (8am to 12 Noon = 4 hours)
Confirmation: 3 beep/flash, 4 beep/flash (3 days from today, 4 hours from now)

2.10 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.

2.11 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.

2.12 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**



3 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 in operation mode. 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.

ALERT	CAUSE	REMEDY / ACTION	
4 chirps/white LED every 5mins	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.	
5 chirps/white LED every 5mins	Radio Interlink Loss (Slave Lost) – After < 30mins	Identify the slave node(s) using a 2 Tap of the Test+Hush button (refer to Option Card section). 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	If the adjacent remedy for slave or master lost does not stop option card, radio interlink alerts, rebuild the network. Place all alarms on one table and perform a 'Return to Factory Defaults' on each alarm, wait for its white LED to flash every 2secs and then immediately remove its option card batteries. Repeat this process for each alarm. Then, rebuild the radio interlink network using the 'Initial Setup' process. Alarms not able to join the network should be replaced.
6 chirps/white LED every 5mins	Radio Interlink Loss (Master or Network Lost) – After < 10mins	Identify the master node using a 2 Tap of the Test+Hush button (refer to Option Card section). 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	
7 chirps/white LED every 5mins	Auto Test Fail	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.	