

# Deaf & Hearing Impaired RadioLINK Alarm System

## Strobe Light & Vibration Pad Module

For use with RadioLINK Smoke/Heat/Fire Alarms



**Note:** At least one RadioLINK Smoke/Fire/Heat Alarm is required to make the Ei170RF Alarm operational. This is not supplied with the Ei170RF and must be obtained separately.

**Important:** Read these instructions, together with those from the separate RadioLINK Smoke/Heat/Fire alarms and accessories before installation. All instruction leaflets must be left with the end user after installation.

The Ei170RF is for use with the following Ei RadioLINK Smoke/Fire/Heat Alarms and Accessories.

**Mains Multisensor/Smoke/Heat/Fire Alarms:**

Ei2110, Ei160RC & Ei140 Series Alarms in conjunction with an Ei168RC RadioLINK Base.

**Battery Powered Smoke / Heat Alarms:**

Ei3100RF, Ei3103RF, Ei3105RF, Ei405, Ei405TY, Ei605C (with RF module), Ei605TYC (with RF module).

**Accessories:**

**Ei407** Manual Call Point, **Ei410** Remote Control (portable), **Ei411H** Remote Control (wall mounted), **Ei428** Relay Module, **Ei408** Switched Input Module, **Ei170RFS** Strobe Panel

## 1. INTRODUCTION

This leaflet describes the installation of the Ei170RF and its integration into a total RadioLINK Fire Alarm System, incorporating a choice of Smoke/Fire/Heat Alarms and Accessories.

N.B. It is essential that the Ei170RF is connected to the mains to preserve its one-week battery standby. Leaving the unit operating without mains connected will completely deplete the battery and possibly damage it. (If the Ei170RF is not being used for a prolonged period and cannot be left plugged in to the mains, then disconnect the battery).

**Location**

The Strobe Module should normally be fixed such that the internal strobe light can be seen from the bed, and the vibration pad can be placed under the mattress or pillow. It has to be powered from the mains (230VAC) so a suitable socket or junction box must be available to which it can be permanently connected. The back-up battery in the Strobe Module must not be exposed to excessive heat such as sunshine, heaters, fires or the like.

The associated RadioLINK Alarms and Accessories must be located and installed as described in their own instruction leaflets.

## 2. INSTALLATION

**Strobe Module Ei170RF**

The battery must first be installed in the Strobe Module. Open the rear compartment by squeezing together the two latches as shown in Figure 1b, and lifting the cover off.

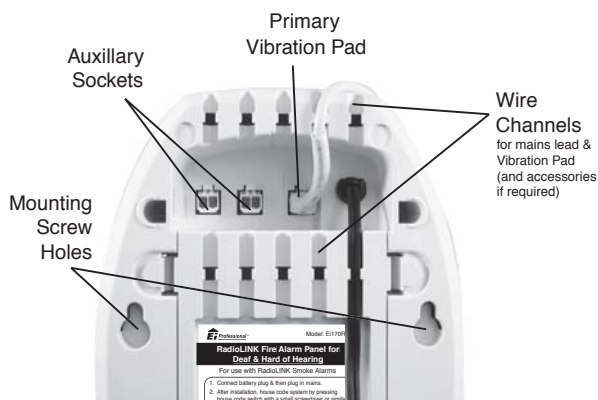


Figure 1a

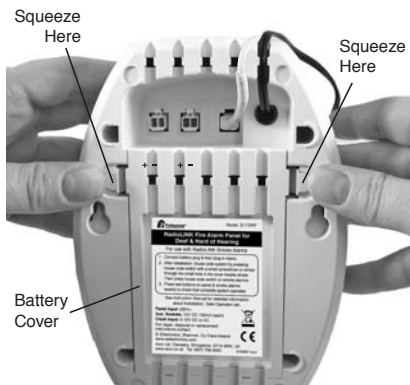
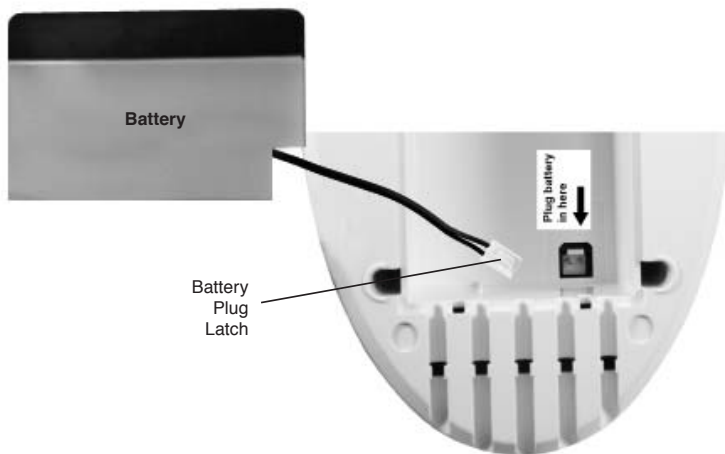


Figure 1b  
Squeeze as shown to open battery compartment



**Figure 2**

Plug the battery into the socket at the rear of the battery compartment as shown in Figure 2 (while holding the small latch on the battery plug, open). Place the battery in the compartment ensuring the notch in the battery is used to leave clearance for the plug and sockets (see Figure 3).



**Figure 3**

Shows battery orientation - Dress the battery leads as shown, replace the battery cover and push firmly down on the two latches

The Strobe Module can be left on a table or permanently fixed to the wall using the screws and plastic plugs enclosed.

If fixing to a wall, the screws should be spaced 95mm (3.7 inches) horizontally apart. The top screws will be 70mm (2.7 inches) below the top surface of the Strobe Module when installed. The template at the end of this leaflet can be used to locate the screws accurately. The screws (large heads) should be screwed into the wall leaving a gap of approximately 4mm (0.15in) under the head. Fit the keyhole slots on the back of the Strobe Module over the screw heads and slide the panel down vertically into position.

The mains adaptor should then be plugged into a socket (or permanently wired to a mains junction box - see overleaf). This mains socket must not be used for any other equipment and it must not be switched off. The mains plug must be readily removable (so the mains can be disconnected if necessary).

### **If connecting to a mains Junction Box**

It is preferable to permanently wire the unit into a mains junction box. In this case remove the plug and wire as follows.

**Warning:** If the plug is being removed and the unit is being wired to a junction box it should be installed by a qualified electrician in accordance with the Regulations for Electrical Installations published by the Institute of Engineering & Technology (UK) BS7671. Failure to install this system correctly may expose the user to shock or fire hazards.

First remove the power to the circuit at the distribution board.


The mains lead wires are colour coded as follows:

**Brown: Live**

**Blue: Neutral**

The wire which is coloured blue must be connected to the terminal/wire which is marked with the letter N or coloured blue.

The wire which is coloured brown must be connected to the terminal/wire which is marked with the letter L or coloured brown.

The apparatus is not to be earthed, so no connection is to be made to terminals or wires marked with the letter E, the symbol  or coloured green or green/yellow.

### **Vibration Pad Ei174**

The primary vibration pad is supplied already plugged into its locking socket on the rear of the Ei170RF Strobe Module (see Figure 1a). Place the vibration pad under the pillow or mattress. It is important that the person in the bed can feel the vibration – check it is sufficient to wake a person by lying on the bed and pressing the test button on the Strobe Module – see also Section 4, Testing and Maintaining your System. Some mattresses may not transmit sufficient vibration, and in these cases it should be fitted under the pillow. Note: During testing, or in an actual alarm situation, the pad pulses on and off for greater effect on sleepers.

The Strobe Module must not be exposed to dripping or splashing and items filled with liquids such as vases must not be placed on or above the apparatus.

## **3. SETTING UP THE RadioLINK SYSTEM**

This system uses radio to communicate between the Fire Alarms, Accessories and the Strobe Module. It is set-up simply by putting all of the units into “House Code Mode” and letting them automatically code with each other. This will “House Code” the installation so that they will not accidentally signal to, or be affected by, nearby systems.

The units will all communicate with each other (providing they are within range), as delivered i.e. without any House Coding - however it is recommended that they are House Coded as follows:

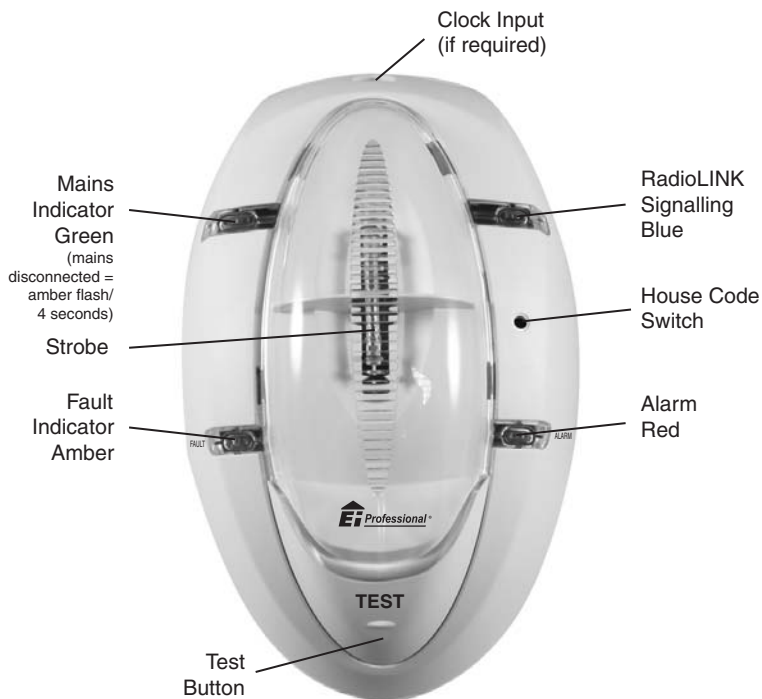
**3.1.1** Install & power all the elements of the system.

**3.1.2** Press the House Code switch on all units – see individual instruction leaflets for switch locations. On the Strobe Module, the House Code switch is pressed by means of small screwdriver (or similar, diameter of top less than 3mm), through the access hole on the top of the unit – see figure 4.

**3.1.3** Press and hold the Strobe Module House Code button until the blue RadioLINK light comes on. Release it and the light will flash every five seconds.

**3.1.4** When all units are set into ‘House Code Mode’ they should signal to each other and set-up their network automatically.

**3.1.5** Each unit will now flash its blue or amber light to show how many units it is RadioLINKED with. If the Strobe Module is linked to just one smoke alarm they will both flash twice. With 6 units for example, 4 Smoke Alarms, a Remote Control and the Strobe Module itself, each unit will flash six times (apart from the Remote Control, which does not have this feature). A maximum of twelve RF units can be linked this way.



**Figure 4**

**3.1.6** If some units flash less than the expected number of times, after being in House Code Mode for over 10 minutes) (say four times on a six unit system) they are out of range of each other. Follow the advice in the RadioLINK instructions supplied with the other alarms to resolve this.

**3.1.7** The units will automatically exit the House Code Mode after 30 minutes. However we recommend that you manually exit the House Code Mode by pressing and holding the House Code switch on the Strobe Module until the blue light turns on, then release. The blue light should stop flashing and an 'exit House Code Mode' radio signal will be sent to all other units. Check that the amber/blue lights on all other units have stopped flashing. (if some units are still flashing it may indicate a problem with the radio communication to this unit, or that the particular RadioLINK unit (models Ei3100RF, Ei3103RF, Ei3105RF, Ei407, Ei410, Ei411H & Ei408) does not have this automatic cancel House Code Mode feature and must be taken out of House Code Mode manually. Check instruction leaflet supplied with the units. Manually exiting the House Code Mode reduces the risk of accidentally House Coding your RadioLINK Bases with nearby systems.

**Note:** When the blue or amber light has stopped flashing on a unit it is out of House Code Mode – do not press the House Code switch again as this will put it back into House Code Mode.

### **3.2 ADDING UNITS**

To add units to the system simply repeat the above procedure, i.e. put all into House Code Mode, new as well as old units, and ensure that the number of flashes shown equals the number of units in the system. For the other RadioLINK components see their instruction leaflets.

### **3.3 RESETTING HOUSE CODES**

Sometimes it is necessary to cancel the House Code learned i.e. to reset the units to the factory settings. To reset the Strobe Module to clear the House Codes, simply hold the House Code button until the blue light illuminates solidly, then starts to flash and then stops flashing, then release the button, this will take about six seconds. For other RadioLINK components see their separate instruction leaflets.

## 4. TESTING AND MAINTAINING YOUR SYSTEM

### 4.1 AFTER INSTALLATION

**4.1.1** Check that all RadioLINK Alarms and Accessories are powered correctly.

**4.1.2** Check that the green light on the Ei170RF Strobe Module is continuously lit.

**4.1.3** Press the test button on all RadioLINKED Smoke/Heat/Fire Alarms, Remote Controls and Manual Call Points in turn, and check that all other Smoke/Heat/Fire Alarms in the system alarm after about 4 seconds and that the strobe and vibration pad activate. Also check that the RadioLINK accessories were operated.

**N.B.** Wait 12 seconds before testing the next unit or if you wish to repeat testing.

**4.1.4** Press the Strobe Module test button. Check the vibration pad pulses, the strobe flashes and the red alarm light on the Strobe Module flashes (this will also cause the Smoke/Heat/Fire Alarms to sound and also their red lights to flash rapidly).

### 4.2 DAILY & WEEKLY TESTING

Check daily that the vibration pad is in its correct position under the pillow or mattress by pressing the test button on the Strobe Module. Also check daily that the green light on the Strobe Module is on constantly. We recommend that you test your system weekly by pressing all the smoke/heat/fire alarm test buttons and checking that the vibration pad and strobe light operate.

Check the Strobe Module indicator lights as follows (see figure 4)

**4.2.1** Green mains power should be constantly on. If it is off check that it is plugged into the mains, that the socket is not switched off, fuses, circuit breakers etc. If the mains is off, the green light will be off and the unit will be running on the rechargeable battery. The green light will be replaced by an amber flash every 4 seconds to indicate battery is satisfactory. When this amber flash stops, the battery is depleted and the mains should be reinstated (If the mains cannot be reinstated at this time, the depleted battery should be removed, until the mains can be re-connected).

**4.2.2** Press the Test button on the Strobe Module and check that the strobe flashes, the red alarm light flashes and that the blue RadioLINK light illuminates on for about 3 seconds indicating the radio test signal is being sent to the Smoke/Fire/Heat alarms and any accessories.

**4.2.3** Check that the amber fault light is not flashing every 4 seconds. If it is check that the primary vibration pad is connected firmly to the socket with its plug latched (see figure 1). If the primary vibration connection is satisfactory, it is probably indicating that the battery is depleted. Connect the unit to the mains and check after 24 hours that the amber fault light has ceased flashing.

### 4.3 PERIODIC TESTING OF RECHARGEABLE BATTERY

**4.3.1** The rechargeable battery can take up to 20 hours to charge when the unit is first powered up. It is then maintained in a fully charged state by continuous trickle charge. In the event of a mains failure the battery will power the system in standby for a week and then be capable of at least 4 minutes of alarm. If the mains fails, the green light is extinguished and the amber light flashes every 4 seconds on the Strobe Module to indicate it is on battery power. The amber light will also flash every 4 seconds if the battery is almost depleted. Both the amber lights will go off to indicate the battery is depleted and the unit is totally unpowered. The battery will last 5 years in normal use provided it is not exposed to extremes of temperature for prolonged periods, or fully discharged & charged a large number of times.

We recommend that the functioning of the rechargeable battery is checked at least yearly as follows:-

**4.3.2** Ensure the Strobe Module has been mains powered for at least the previous 20 hours for the battery to charge.

**4.3.3** Turn off the mains power to the unit by unplugging it or switching off the circuit at the distribution board. Check that the green light goes off and the amber light starts to flash.

**4.3.4** Press the Strobe Module test button for 20 seconds and check the strobe flashes brightly, the pad vibrates strongly and that all the RadioLINK alarms trigger. Check that the red alarm light flashes while the test button is pressed. (Cover the strobe light with a card to stop this dazzling you while looking at the red light). If the red light goes off, or if the strobe is weak, or if the vibration pad is weak,

the battery will need to be replaced. Contact the nearest address in this leaflet for advice about getting a replacement. The battery also needs to be replaced if it is over 5 years old (see “replace battery by” date on side panel). To remove the battery reverse the instructions in the first part of section 2. Contact nearest address at the end of this leaflet on obtaining a replacement battery.

Replace the entire Strobe Module after 10 years operation. (see “replace unit by” date on side panel).

## 5. TROUBLESHOOTING

If the units fail any of the above tests after installation, the system has probably been incorrectly installed and/or all units are not House Coded correctly. Check carefully that all units are powered. If the power lights on any of the mains units are not on constantly, or flashing once every 45 seconds on battery powered units, check the connections to the mains and/or the connections to the batteries. (See individual unit instruction leaflets if necessary). For mains units check that the power is not off (i.e. due to a tripped circuit breaker or fuse).

The wiring to the primary vibration pad is monitored and if the vibration pad is removed or if its wiring is open circuit, the strobe and the amber fault light will flash (this may take up to approximately 45 seconds).

There are no user serviceable parts in this unit (apart from the battery). If the unit (apart from the battery) is thought to be defective, it must be returned to the nearest address at the end of this leaflet for repair or replacement (see “Five Year Guarantee” section).

Some troubleshooting items (including RF links) are specific to individual units and may not be covered in this leaflet. In these cases the more comprehensive unit leaflet should be consulted.

## 6. OTHER FEATURES & ACCESSORIES

### OTHER FEATURES

**Strobe & Vibration Pad Module - Auxiliary Outputs - AUX 1 & AUX 2:** The two auxiliary outputs are activated when the Strobe Module is in alarm. The Aux 1 socket can supply up to 180mA at 12 Volts. The AUX 2 socket can supply up to 20mA at 12 Volts.

N.B. The AUX 2 socket can be used for low power devices such as pager trigger inputs.

**Note:** As supplied the two auxiliary sockets AUX. 1 and AUX. 2 are protected by latched plastic plugs which must be removed before the auxiliary devices can be plugged in (see figure 5). These plugs can be removed by pressing the latch lever (on the side nearest the “AUX” marking) before gently pulling the plug off.

**“Clock Input” Socket:** A suitable alarm clock signal (with a 5 to 24 Volts AC or DC output – electrically isolated from the mains supply) can be connected to this input socket with a 3.5mm mono jack plug. (see figure 4) When the alarm clock triggers, the vibration pad turns on continuously (i.e. it is not pulsed) to wake the person, but the internal strobe or auxiliary outputs are not activated. This lets the user know it is a wake-up call and not a fire. Therefore the user needs only one vibration pad under their pillow or mattress – rather than two, one for the Fire Alarm and one for the alarm clock.

### ACCESSORIES

**Ei178 - Auxiliary Strobe:** (draws 180mA). Supplied with 10m of cable and a suitable plug for connection to the auxiliary socket. It should be plugged into AUX 1. It can be located, for example, where it is readily seen during the day (e.g. downstairs hallway).

**Ei174 - Auxiliary Vibration Pad:** (draws 120mA). Supplied with 5m of cable and a suitable plug for connecting to the auxiliary socket. It should be plugged into AUX 1.

**Ei410 - RadioLINK Remote Control** (portable): The Remote Control Ei410 allows you to Test, Hush or Locate suitable RadioLINK Smoke/Fire/Heat Alarms.

**Ei411H - RadioLINK Remote Control** (wall mounted): This wall mounted switch allows you to Test, Hush or Locate suitable RadioLINK Smoke/Fire/Heat Alarms. (Note: the Strobe Module Ei170RC ignores a RadioLINK LOCATE message and will continue to flash the strobe and drive the vibration pad as long as it gets an RF alarm signal).

**Ei407 - RadioLINK Manual Call Point:** This allows remote triggering of RadioLINK alarms / accessories and is ideal where emergency situations are identified and which require immediate evacuation.

**Ei428 - RadioLINK Relay Module:** This module contains a set of relay contacts that switch upon receipt of an alarm signal from suitable RadioLINK Smoke/Fire/Heat Alarms.

**Ei170RFS:** An additional RadioLINK Strobe Module, without a vibration pad (i.e. Strobe only) is available for use in a day rooms etc. to give a visual fire warning. It is supplied with a blanking plug, without a cable attached, which connects into the primary vibration pad socket (marked "PAD") to prevent the amber fault light and strobe activating, indicating a fault (which would occur if the socket was left empty).

**Ei408 - RadioLINK Switched Input Module:** This allows panels or other devices with Volt-free relay outputs to trigger the RadioLINK system, including the Ei170RF.

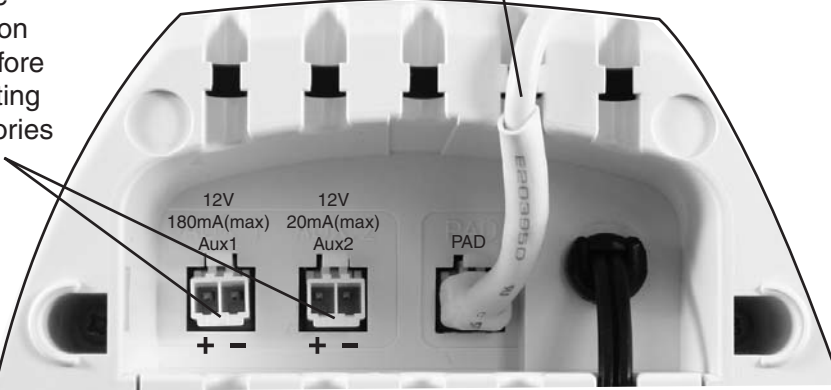
## 5. FIVE YEAR GUARANTEE

Ei Electronics guarantees this device for five years from the date of purchase against any defects that are due to faulty materials or workmanship. This guarantee only applies to normal conditions of use and service, and does not include damage resulting from accident, neglect, misuse, unauthorised dismantling, or contamination howsoever caused. This guarantee excludes incidental and consequential damage. If this device should become defective within the guarantee period, it must be returned to the nearest address given below, carefully packaged, with the problem clearly stated along with proof of the date of purchase. We shall at our discretion repair or replace the faulty unit.



Primary Vibration Pad

Remove protection plug before connecting accessories



### Template for Mounting Screws

Drill Holes Here

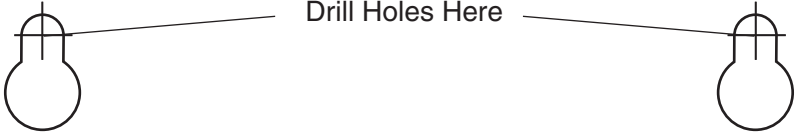


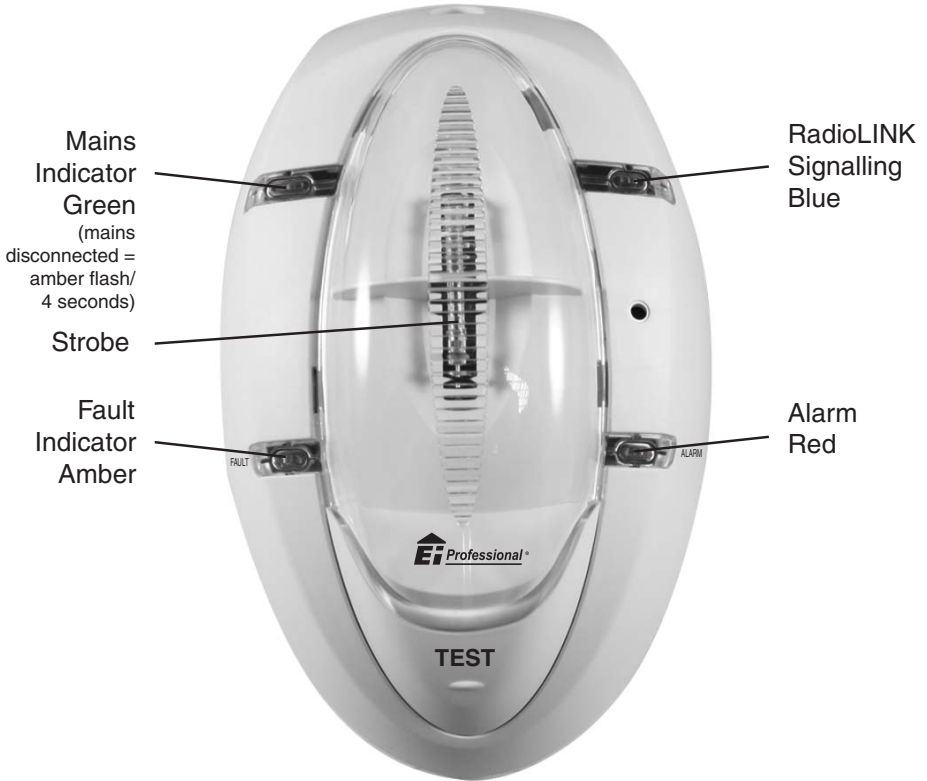
Figure 5

# INDICATOR SUMMARY

| Mode                                  | MAINS / STANDBY<br>Green Light<br>Amber Light | ALARM<br>Red Light | FAULT<br>Amber Light | STROBE<br>Light  | VIBRATION<br>Pad   | Aux1<br>Aux2 | RADIOLINK<br>Blue Light |
|---------------------------------------|---|--------------------|----------------------|------------------|--------------------|--------------|-------------------------|
| <b>Standby -</b>                      |   |                    |                      |                  |                    |              |                         |
| Mains on                              | on  | —                  | —                    | —                | —                  | —            | —                       |
| Mains off, battery connected          | off   | 1 flash / 5 sec    | —                    | —                | —                  | —            | —                       |
| Mains off, battery virtually depleted | off   | 1 flash / 5 sec    | 1 flash / 5 sec      | —                | —                  | —            | —                       |
| Mains off, battery fully depleted     | off   | off                | off                  | off              | off                | off          | off                     |
| <b>Sensing Fire -</b>                 |   |                    |                      |                  |                    |              |                         |
| Fire signal received from Smoke Alarm | —   | 1 flash / 2 sec    | —                    | 40 flashes / min | 2 sec on/off pulse | on           | —                       |
| <b>Test Mode -</b>                    |   |                    |                      |                  |                    |              |                         |
| Test button pressed on deaf alarm     | —   | 1 flash / 2 sec    | —                    | 40 flashes / min | 2 sec on/off pulse | on           | on for 4 sec            |
| Test button pressed on deaf alarm     | —   | 1 flash / 2 sec    | —                    | 40 flashes / min | 2 sec on/off pulse | on           | —                       |
| <b>Fault Mode -</b>                   |   |                    |                      |                  |                    |              |                         |
| Vibration Pad disconnected            | —   | —                  | 1 flash / 5 sec      | 40 flashes / min | —                  | on           | —                       |
| Battery disconnected (mains on)       | on  | off                | 1 flash / 5 sec      | —                | —                  | —            | —                       |
| <b>House Code Mode for RF -</b>       |   |                    |                      |                  |                    |              |                         |
| Press button - enter house code       | —   | —                  | —                    | —                | —                  | —            | flashes                 |
| In house code mode                    | —   | —                  | —                    | —                | —                  | —            | flashes                 |
| Press button - cancel house code      | —   | —                  | —                    | —                | —                  | —            | on for 4 sec            |
| <b>Alarm clock Input -</b>            |   |                    |                      |                  |                    |              |                         |
| Alarm input on                        | —   | —                  | —                    | off              | on continuous      | off          | —                       |

# INDICATOR SUMMARY

## Control Panel Indicators



The crossed out wheelie bin symbol that is on your product indicates that this product should not be disposed of via the normal household waste stream. Proper disposal will prevent possible harm to the environment or to human health. When disposing of this product please separate it from other waste streams to ensure that it can be recycled in an environmentally sound manner. For more details on collection and proper disposal, please contact your local government office or the retailer where you purchased this product.



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