

## **WARNING**

**DO NOT INSTALL THE ACTUAL SMOKE ALARM IN NEW OR RENOVATED BUILDINGS UNTIL ALL WORK IS COMPLETED (INCLUDING FLOOR COVERINGS) AND BUILDING HAS BEEN FULLY CLEANED**

**(Excessive dust & debris from building work can contaminate the smoke chamber and cause problems).**

**An installed smoke alarm must be removed or covered fully (with a plastic bag or similar) before renovations begin.**

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P/N B14355 Rev4



## **10 YEAR SMOKE ALARM WITH 10 YEAR LITHIUM BATTERY BUILT-IN**

### **INSTRUCTION LEAFLET**

Contains vital information on unit operation and installation. Read and retain carefully. If you are just installing the unit, this leaflet **MUST** be given to the householder.



## **OPTICAL SMOKE ALARM**

- MODELS:**
- Ei 3105TY STANDARD**
  - Ei 3105TYC (with INTERCONNECT)**
  - Ei 3105TYH (with HUSH)**
  - Ei 3105TYCH (with INTERCONNECT & HUSH)**

## 1. READ THIS FIRST

A Smoke Alarm is an early warning device. Used correctly it can give you and your family valuable extra time to escape.

- **Open the unit and slide the switch as indicated. This will connect the battery permanently. Press the test button and the horn should sound.**
- When the battery is first connected the Alarm may sound for 2-3 seconds and/or the red light may flash quickly for 10 seconds - **this is normal.**
- A Smoke Alarm does not prevent fires.
- Install correctly, in the centre of the ceiling if possible.
- Test weekly.
- If the Alarm beeps **without** the red light flashing at the same time then clean unit as this is the automatic test feature telling you the chamber is degraded.
- Plan your escape route.
- Proper protection may require more than one Smoke Alarm.
- If you have any doubt or query about Smoke Alarms consult the supplier or your local Fire Brigade.
- When the Alarm beeps **and** the red light flashes at the same time it indicates the battery is depleted and the entire alarm must be replaced. This normally occurs when over 10 years has elapsed.

## 2. LOCATING YOUR SMOKE ALARM

Sufficient smoke must enter your Smoke Alarm before it will respond. Your Smoke Alarm needs to be within 10 paces (7.5 metres) of the fire to respond quickly. It also needs to be in a position where its alarm can be heard throughout your home, so it can wake you and your family in time for you all to escape. A **single** Smoke Alarm will give some protection if it is properly installed, but most homes will **require** two or more to ensure that a reliable early warning is given. For maximum protection you should put individual Smoke Alarms in all the rooms where fire is most likely to break out.

Your first Smoke Alarm should be located between the sleeping area and the most likely sources of fire (living room or kitchen for example). But it should not be more than 10 paces (7.5 metres) from the door to any room where a fire might start and block your escape from the house.

**2.1 Single Storey Dwelling.**

If your Home is on one level (a bungalow or mobile home for example) you should put your first Smoke Alarm in a corridor or hallway between the sleeping and living areas. Place it as near to the living area as possible, but make sure you can hear it loudly enough to wake you in the bedroom. (for example, see figure 1)

If your bungalow is very large and the corridor or hallway is more than say 20 paces (15 metres) long, one Smoke Alarm will not be sufficient. This is because no matter where it is located it will be more than 7.5 metres from potential fires.

**Recommended locations, Figures 1, 2, & 3**



**for minimum protection**

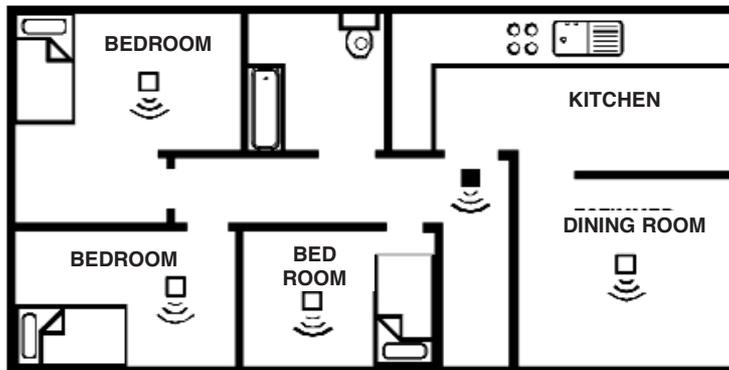
- on each storey
- in each sleeping area
- every 7.5 metres of hallways & rooms
- within 3 metres of all bedroom doors



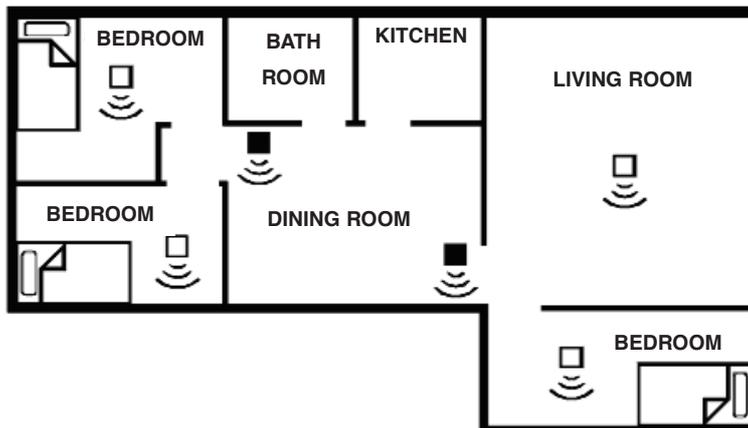
**for maximum protection**

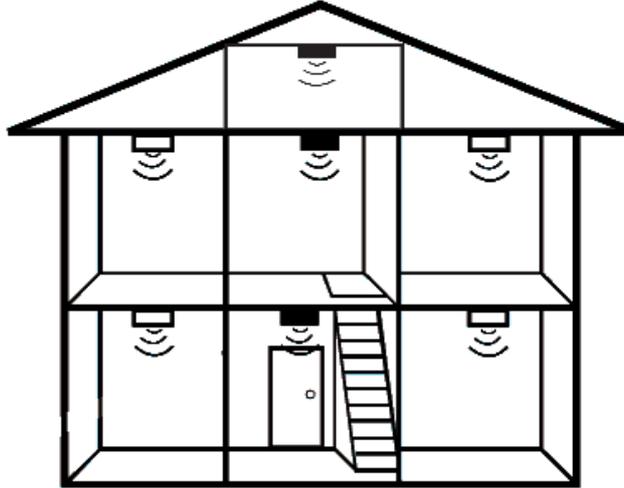
- in every room (except bathrooms and kitchens)

**Figure 1:** Single storey dwelling



**Figure 2:** Single storey dwelling with separate sleeping areas.



**Figure 3: Multi Storey Dwelling**

In houses with more than one sleeping area, Smoke Alarms should be placed between each sleeping area and the living area (for example, see figure 2).

## 2.2 Multi Storey Dwellings

If your home has more than one floor, at least one alarm should be fitted on each level (see figure 3). It is recommended that the alarms should be interconnected for best protection.

## 2.3 Maximum Protection

For maximum protection you should put individual Smoke Alarms in all the rooms where fire is most likely to break out (apart from the locations to avoid, mentioned below). The living room is the most likely place for a fire to start at night, followed by the kitchen and then the dining room. You should also consider putting Smoke Alarms in any bedrooms where fires might occur, for instance, where there is an electrical appliance such as an electric blanket or heater, or where the occupant is a smoker. You could also consider putting Smoke Alarms in any rooms where the occupant is unable to respond very well to a fire starting in the room, such as an elderly or sick person or a very young child.

## 2.4 Checking you can hear your Smoke Alarm

With the Smoke Alarm sounding in its intended location, check you are able to hear it in each bedroom with the door closed, above the sound of your radio. The radio should be set to a reasonably loud conversation level. If you can't hear it over your radio the chances are that it wouldn't wake you.

If a Smoke Alarm is too far away for it to wake you, it is best to interconnect it to another Smoke Alarm near the bedroom. The Interconnect Smoke Alarms Ei3105TYC and Ei3105TYCH are designed for this - when one alarm senses smoke, all connected alarms respond.

Figure 4

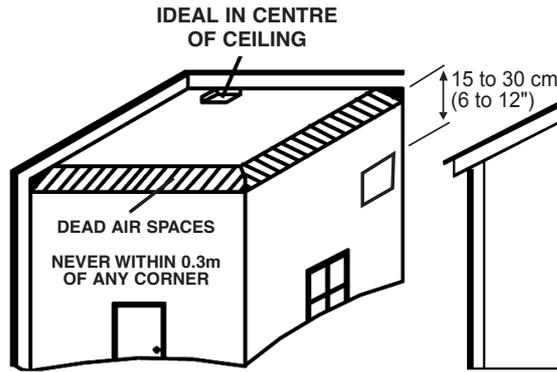
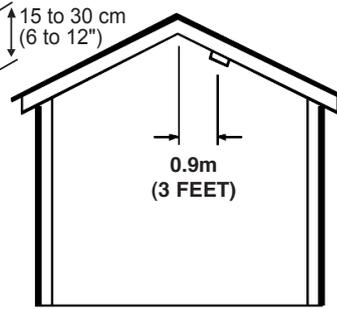


Figure 5



### 3. POSITIONING YOUR SMOKE ALARM

3.1. Hot smoke rises and spreads out, so a central ceiling position is the preferred location. The air is “dead” and does not move in corners, therefore Smoke Alarms must be mounted away from corners. Place the unit at least 0.3m (1ft) from any light fitting or decorative object which might obstruct smoke entering the Smoke Alarm. Keep at least 0.3m (1ft) away from walls and corners. See figure 4.

#### 3.2 Wall Mounting

When a ceiling position is not practical (for example on a ceiling having exposed beams or joists, or built-in radiant heating) put the top edge of your Smoke Alarm between 15 and 30 cm (6 and 12 inches) below the ceiling. Keep at least 0.3m (1ft) from corners. (see figure 4).

#### 3.3 On a sloping Ceiling

In areas with sloping or peaked ceilings install your Smoke Alarm 0.9m from the highest point measured horizontally (see figure 5), because “dead air” at the apex may prevent smoke from reaching the unit.

#### 3.4 Locations to Avoid

Don't place your Smoke Alarm in any of the following areas:

- **Bathrooms, kitchen, shower rooms, garages** or other rooms where the smoke alarm may be triggered by steam, condensation, normal smoke or fumes.
- **Attics** or other places where extremes of temperature may occur (below 4°C or above 40°C).
- Near a **decorative object, door, light fitting, window molding** etc., that may prevent smoke from entering the Smoke Alarm.
- Surfaces that are normally **warmer** or **colder** than the rest of the room (for example attic hatches, uninsulated exterior walls etc). Temperature differences might stop smoke from reaching the unit.

- Next to or directly above **heaters** or **air conditioning vents, windows, wall vents** etc. that can change the direction of airflow.
- In very high or **awkward areas** where it may be difficult to reach the alarm (for testing, etc).
- Locate unit at least 1.5m and route the interconnect wiring at least 1m away from **fluorescent light fittings** as electrical “noise” and/or flickering may affect the unit.
- Locate away from very **dusty** or **dirty areas** as dust build-up in the chamber can make unit too sensitive and prone to alarm. It can also block the insect screen mesh and prevent smoke from entering the chamber.
- Do not locate in **insect infested areas**. Small insects getting in to the chamber can cause intermittent alarms.

### 3.5 Nuisance/False Alarms

If, when the alarm goes off, there is no sign of smoke, heat or noise to indicate that there is a fire, you should get your family into a safe place, before you start investigating.

Check the house carefully in case there is a small fire smouldering somewhere.

Check whether there is some source of smoke or fumes, for example cooking fumes being drawn past the Smoke Alarm by an extractor.

If there are frequent nuisance/false alarms it may be necessary to re-locate the device away from the source of the fumes.

Fanning vigorously with a newspaper or similar will help silence alarm.

The Smoke Alarms with the Hush feature Ei3105TYH & Ei3105TYCH are designed for more difficult areas as pressing the test button also silences the alarm for about 10 minutes (see page 8 for details).

## 4. INSTALLING YOUR SMOKE ALARM

### 4.1 Attaching to Ceiling or Wall.

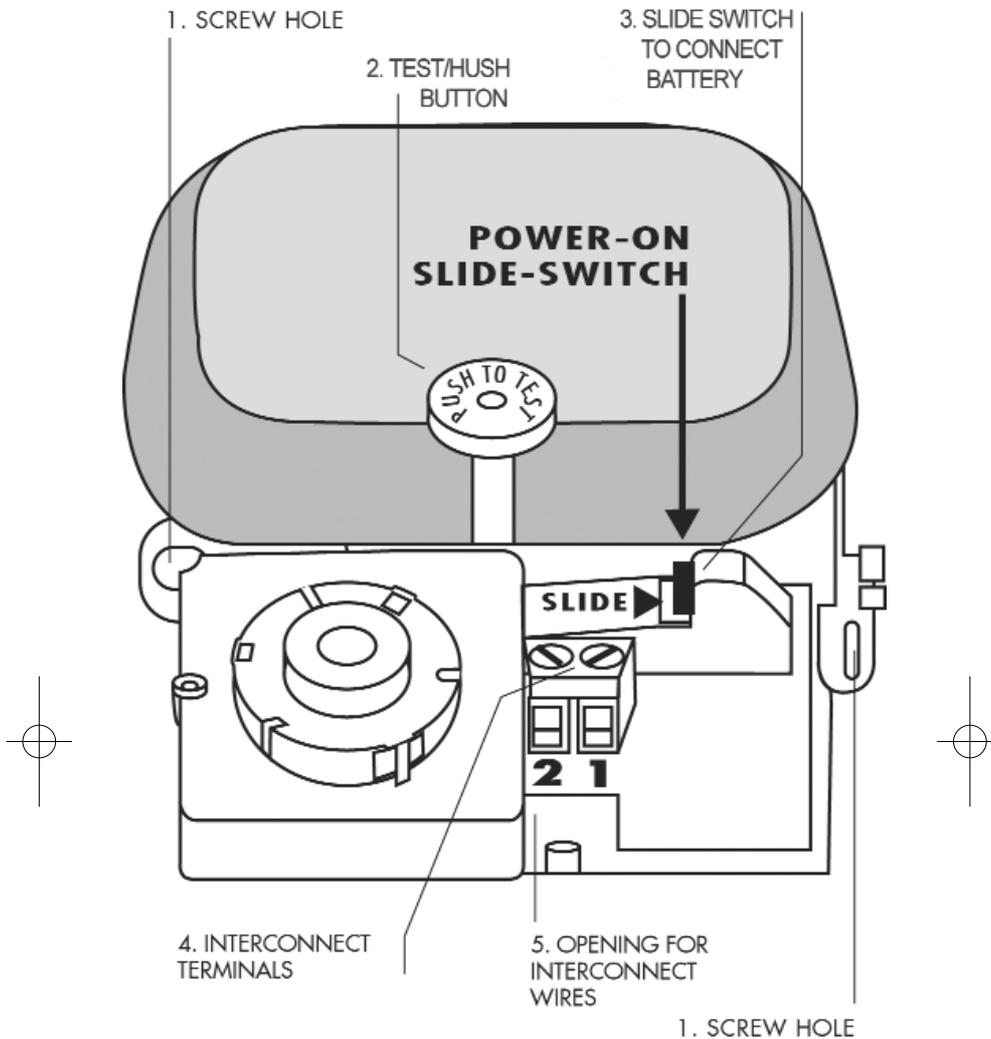
(NB: For Interconnecting see page 11)

The Smoke Alarm is battery operated and needs only wiring, if the Interconnect facility is being used.

1. Pull cover open at tab. Remove cover from base by separating at rear snap-in hinges by rotating cover backwards.

2. Place the base on ceiling / wall exactly where you want to mount the unit. With a pencil, mark the location of the two screw holes.

**Figure 6**



3. Taking care to avoid any electrical wiring in the ceiling, drill holes through the centres of the marked locations. Push the plastic screw anchors provided into the drilled holes. Screw in firmly.

#### 4.2 Connecting the built-in Lithium Battery

Slide black switch in direction indicated. This connects the built-in Lithium Battery permanently.

## 5. LOOKING AFTER YOUR SMOKE ALARM

### 5.1 Automatic Self-Test

The smoke chamber automatically tests itself every 40 seconds. If the chamber is degraded it will beep **without** the red light flashing at the same time. If this happens clean the unit. If the beeping persists and the beep does not coincide with an red light flash, return the unit for service (see “Getting your Smoke Alarm Serviced”)

### 5.2 Manually Testing your Smoke Alarm

It is recommended that you test your Smoke Alarm at least once a month to be sure the unit is working. It will also help you and your family to become familiar with the sound of the Alarm.

When you press the test button it simulates the effect of smoke during a real fire. So, there is no need to test the Alarm with smoke.

Figure 7



Press and hold the Test Button until the alarm sounds (it may take up to 10 seconds), (Figure 7). The alarm will stop sounding shortly after the button is released. If the alarm fails to sound, follow this checklist. Check the age of the unit - see “replace by” label on base of unit.

Ensure battery connection switch shown in figure 6 has been slid fully in direction indicated.

Check for any sign of contamination such as cobwebs or dust and clean the alarm as described on page 9 if necessary.

**WARNING:** Do not test with flame.

This can set fire to the alarm and damage the house. We do not recommend testing with smoke as the results can be misleading unless special apparatus is used.

### 5.3 Power Indicator Light.

The Smoke Alarm has a Power Indicator Light which flashes once a minute through the test button to show the Smoke Alarm is powered. Check regularly. Replace the Smoke Alarm if the flashing stops.

### 5.4 Smoke Alarms with Hush feature (Ei3105TYH/TYCH)

Some models have a silencer feature to help you control nuisance false alarms.

1. To cancel a false alarm, press the test button. The alarm will automatically switch to a reduced sensitivity condition. This condition allows unwanted alarms to be silenced for a period of approximately 10 minutes. The red light will flash every 10 seconds (instead of 40 seconds) to let you know the unit has been silenced.

2. The unit will reset to normal sensitivity at the end of the silenced period. If additional silenced time is required, simply push the test button again.

3. If the cause of the alarm is not clear, it should be assumed that it is due to an actual fire and the dwelling should be evacuated immediately.

If kitchen usage/layout is such that there are an unacceptable level of nuisance alarms, re-locate the Smoke Alarm further away where it will be less affected by cooking fumes etc.

### 5.5 Cleaning your Smoke Alarm

Clean your Smoke Alarm regularly. Use a soft bristle brush or the brush attachment of your vacuum cleaner to remove dust and cobwebs from the sides and cover slots where the smoke enters. Keep cover closed while cleaning. Do not vacuum or brush inside the Smoke Alarm. To clean the cover, remove it completely and use only mild soap and water. Dry cover thoroughly before replacing it.

**WARNING:** Do not paint your Smoke Alarm.

Other than the maintenance and cleaning described in this leaflet, no other customer servicing of this product is required. Repairs, when needed, must be performed by the manufacturer.

### 5.6 Dust & Insect Contamination

All Smoke Alarms and particularly the optical (photoelectric) type are prone to dust and insect ingress which can cause false alarms.

The latest design, materials and manufacturing techniques have been used in the construction of our Alarms to minimize the effects of contamination. However it is impossible to completely eliminate the effect of dust and insect contamination, and therefore, to prolong the life of the Smoke Alarm you must ensure that it is kept clean so that excess dust does not build up. Any insects or cobwebs in the vicinity of the Smoke Alarm should be promptly removed.

In certain circumstances even with regular cleaning, contamination can build up in the smoke sensing chamber causing the alarm to sound. If this happens the alarm must be

returned to us for servicing or replacement. Contamination is beyond our control, it is totally unpredictable and is considered normal wear and tear. For this reason, contamination is not covered by the guarantee and a charge is made for all servicing work.

If you experience persistent false alarms, in particular locations, due to contamination of the smoke chamber you could consider fitting our ionisation type Smoke Alarm. The principle of ionisation detection makes it less vulnerable to the effects of dust or insect contamination.

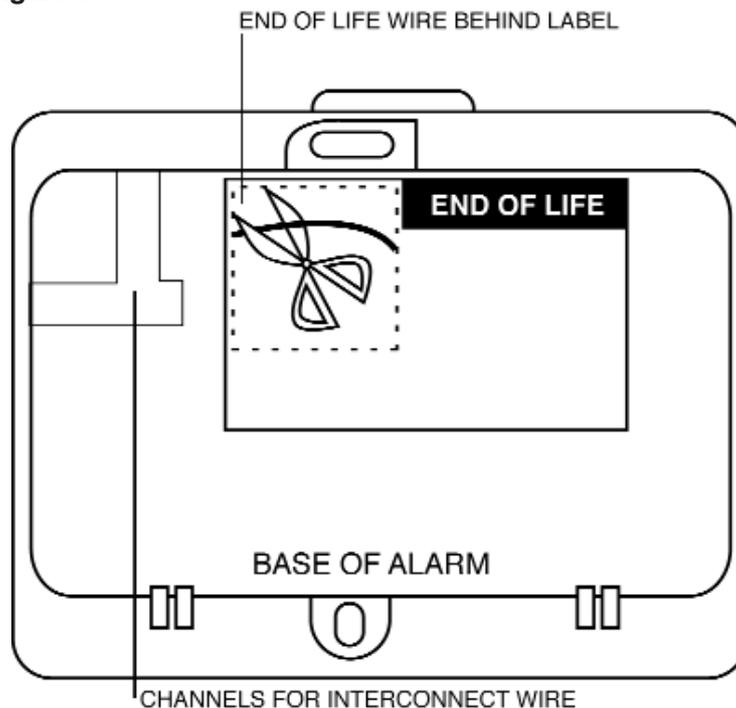
### 5.7 End of life

The entire Smoke Alarm must be replaced if:-

- (i) The unit is installed for over 10 years (check the replacement year marked on the unit).
- (ii) The unit is giving a short beep every 40 seconds and the red light flashes at the same time for over 1 hour. (If the unit beeps without the red light flashing at the same time see "Cleaning your Smoke Alarm" above).
- (iii) The unit fails to sound the horn loudly when the test button is pressed.

Before the Smoke Alarm is discarded, cut "end of life" red wire shown in figure 8 with a scissors to stop the low battery beeps or the possibility of the unit alarming. Perforate the label to access wire. **Do not put the Smoke Alarm into a fire.**

**Figure 8**



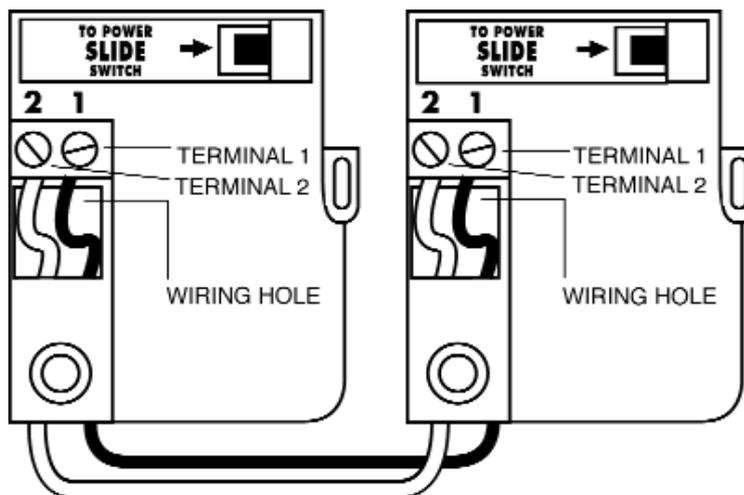
## 6. INTERCONNECTING YOUR SMOKE ALARM

A maximum of 12 Ei 3105TYC/TYCH or Ei 100TYC Smoke Alarms may be wired together such that when one unit senses smoke all other units sound a warning. This helps ensure smoke alarms will be heard. Do not connect to any other device as it may damage the unit or affect performance. A maximum of 250 metres (820ft) of signal cable can be used, (maximum resistance between detectors 50 ohm). The units are interconnected by wiring all the terminals marked 1 together, and all the terminals marked 2 together (as in figure 9) before screwing to ceiling. Draughts, through the ceiling, from wiring openings, conduit, or mounting boxes/holes, may blow smoke away from the sensing chamber, making it insensitive. It is essential that all such openings including the wiring hole (see figure 9) be closed by silicone sealant or similar.

After wiring together the Interconnect Smoke Alarms, test the first unit by pressing the button. All the detectors should alarm and the test button on the first unit will flash about once a second. Please note it can take up to 5 seconds for some of the interconnected units to sound. Check all the other units similarly.

These Smoke Alarms should be interconnected only within the confines of a single family living unit. If they are connected between different units there may be excessive nuisance alarms. Everybody may not be aware that they are being tested or that it is a nuisance alarm caused by cooking etc.

Figure 9



## 7. IMPORTANT SAFEGUARDS

When using household protective devices, basic safety precautions should always be followed, including those listed as follows:

- Please read all instructions.
- Rehearse emergency escape plans so everyone at home knows what to do in case the alarm sounds.
- Constant exposure to high or freezing temperatures, high humidity or a high level of nuisance alarms may reduce the life of the battery.
- Nuisance alarms can be quickly silenced by fanning vigorously with a newspaper or similar to remove the smoke. On units with the hush feature (Ei3105TYH, Ei3105 TYCH) press the test button.
- Do not attempt to remove, recharge or burn battery, as it may explode.
- If it is necessary to remove the battery for separate disposal, handle carefully to avoid possible eye damage or skin irritation if battery has leaked or corroded.
- To maintain sensitivity to smoke, do not paint or cover smoke alarm in any manner; do not permit any accumulation of cobwebs, dust or grease.
- If unit has been damaged in any way or does not function properly, do not attempt a repair. Return Smoke Alarm (see - Getting your Smoke Alarm Serviced page 15.)
- This appliance is intended ONLY for premises having a residential type environment.
- This is not a portable product. It must be mounted following the instructions in this instruction leaflet.
- Smoke Alarms are not a substitute for insurance. The supplier or manufacturer is not your insurer.

## 7.2 Limitations of Smoke Alarms

Smoke Alarms have significantly helped to reduce the number of fire fatalities in countries where they are widely installed. However independent authorities have stated that they may be ineffective in some circumstances. There are a number of reasons for this:

- Smoke Alarms will not work if the batteries are depleted or if they are not connected. Test regularly and replace the entire unit when it fails to operate.
- Smoke Alarms will not detect fire if sufficient smoke does not reach the alarm. Smoke may be prevented from reaching the Alarm if the fire is too far away, for example, if the fire is on another floor, behind a closed door, in a chimney, in a wall cavity, or if the prevailing air draughts

carry the smoke away. Installing smoke alarms on both sides of closed doors and installing more than one smoke alarm as recommended in this leaflet very significantly improve the probability of early detection.

- The Smoke Alarm may not be heard.
- A smoke alarm may not wake a person who has taken drugs or alcohol.
- Smoke Alarms may not detect every type of fire to give sufficient early warning. They are particularly ineffective with: fires caused by smoking in bed, escaping gas, violent explosions, poor storage of flammable rags and/or liquids, (for example petrol, paint, spirits etc), overloaded electrical circuits, arson, children playing with matches.
- Smoke Alarms don't last indefinitely. The manufacturer recommends replacement after 10 years as a precaution
- Use the Smoke Alarm Test Button to familiarize your family with the Alarm sound and to practice fire drills regularly with all family members. Draw up a floor plan that will show each member at least 2 escape routes from each room in the house. Children tend to hide when they don't know what to do. Teach children how to escape, open windows, and use roll up fire ladders and stools without adult help. Make sure they know what to do if the alarm goes off.

## PLANNING YOUR ESCAPE ROUTE FOR WHEN THE ALARM GOES OFF

1. Check room doors for heat or smoke. Do not open a hot door. Use an alternate escape route. Close doors behind you as you leave.



2. If smoke is heavy, crawl out, staying close to floor. Take short breaths, if possible, through a wet cloth or hold your breath. More people die from smoke inhalation than from flames.



3. Get out as fast as you can. Do not stop for packing. Have a prearranged meeting place outside for all family members. Check everybody is there.



4. Call the Fire Brigade from a neighbour's house. Remember to give your name and address.



5. **NEVER** re-enter a burning house.



## 8.2 FIRE SAFETY HINTS

Store petrol and other flammable materials in proper containers.

Discard oily or flammable rags.

Always use a metal fireplace screen and have chimneys cleaned regularly.

Replace worn or damaged sockets, switches, home wiring and cracked or frayed electrical cords and plugs.

Do not overload electrical circuits.

Keep matches away from children.

Never smoke in bed. In rooms where you do smoke, always check under cushions for smouldering cigarettes and ashes.

Service central heating systems regularly.

Be sure all electrical appliances and tools have a recognised approval label.

This device cannot protect all persons at all times. It may not protect against the three most common causes of fatal fires:

1. Smoking in bed.
2. Leaving children at home alone.
3. Cleaning with flammable liquids, such as petrol.

Further information can be obtained from the Fire Brigade.

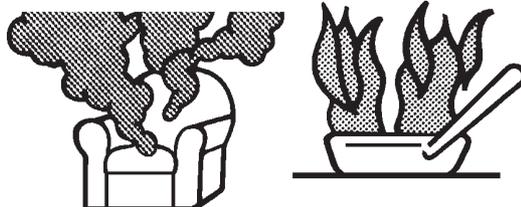
### WHAT IS THE BEST SMOKE ALARM - OPTICAL OR IONISATION ?

Both types respond in all standard fires but each type may respond faster to particular fires as shown. Ei Electronics manufactures two complementary 10 Year Smoke Alarms, Optical Smoke Alarm Ei 105TYC, Ei 3105TYC and Ionisation

Smoke Alarm Ei 100TYC with built-in Lithium battery. For **dual** protection install each type.

**The Home Office states (in FB2):**

|  |  |
|--|--|
| <p><b>Optical Sensor</b><br/>Best for slow smouldering fires<br/>- large smoke particles</p> | <p><b>Ion Sensor</b><br/>Best for fast flaming fires<br/>- small smoke particles</p> |
|--|--|



“If your home has more than one floor, at least one alarm should be fitted on each level. In this case a combination of Optical and Ionisation alarms, preferably interconnected, will give the best protection.

### GETTING YOUR SMOKE ALARM SERVICED

If your Smoke Alarm fails to work after you have read the sections on “Connecting the battery” and “Looking after your Smoke Alarm” contact Customer Assistance at the nearest address given at the end of this leaflet. If it needs to be returned for repair or replacement put it in a padded box (with the end of life wire cut) and send it to “Customer Assistance and Information” at the nearest address given on the Smoke Alarm or in this leaflet. State the nature of the fault, where the Smoke Alarm was purchased and the date of purchase.

### FIVE YEAR GUARANTEE (Limited)

Ei Electronics guarantees this product against any defects that are due to faulty material or workmanship for a five year period after the original date of consumer purchase or receipt as a gift. 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. If this product has become defective it must be returned to Ei Electronics (see “Getting Your Smoke Alarm Serviced”) with proof of purchase. If the product has become defective during the five year guarantee the manufacturer will repair or replace the unit without charge. This guarantee excludes incidental and consequential damages.

Do not interfere with the product or attempt to tamper with it. This will invalidate the guarantee.

The crossed out wheelee 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.



Construction Product Type: **Smoke Alarm Devices**  
 European Standard: **EN14604:2005**  
 Certificate of Conformity: **0086-CPD-537430**

| MODEL      | TYPE                |
|------------|---------------------|
| Ei3105TY   | Optical Smoke Alarm |
| Ei3105TYC  | Optical Smoke Alarm |
| Ei3105TYH  | Optical Smoke Alarm |
| Ei3105TYCH | Optical Smoke Alarm |

  
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**Ei Electronics**

Shannon, Co. Clare, Ireland.  
 E-mail. [eielectronics@eiltd.ie](mailto:eielectronics@eiltd.ie)  
[www.eielectronics.com](http://www.eielectronics.com)

**AICO Limited.**

Mile End Business Park,  
 Oswestry, Shropshire,  
 SY10 8NN, U.K.  
 E-mail: [enquiries@aico.co.uk](mailto:enquiries@aico.co.uk)  
[www.aico.co.uk](http://www.aico.co.uk)