

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.

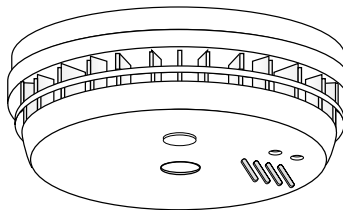
©Ei Electronics 2003

P/N B15026 R0

RADIO SMOKE ALARMS with WIRELESS INTERCONNECT

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.



MODELS:

- | | |
|------------------|---|
| Ei 405 | - Replaceable 9V Battery |
| Ei 405C | - Replaceable 9V Battery & hard wired interconnect option |
| Ei 405TY | - 10 Year Lithium Batteries built-in |
| Ei 405TYC | - 10 Year Lithium Batteries built-in & hard wired interconnect option |

All with Optical Smoke Sensor

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.

- ¥ Models Ei405 & Ei405C - connect battery snaps firmly (see fig 1b). Press the test button and horn should sound.
- ¥ Models Ei405C, Ei405TY & Ei405TYC - slide unit on to mounting plate to connect the batteries.
- ¥ 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**.

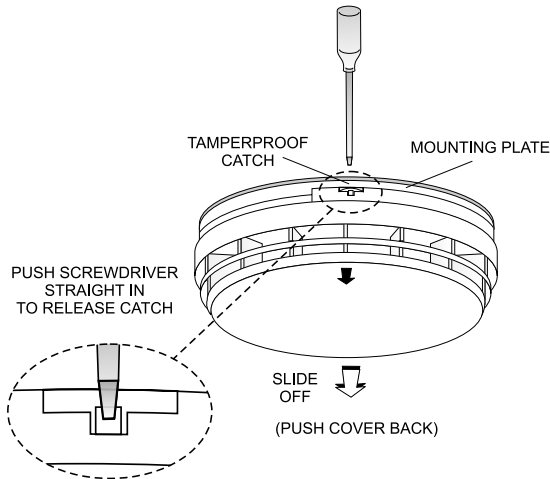


Figure 1a

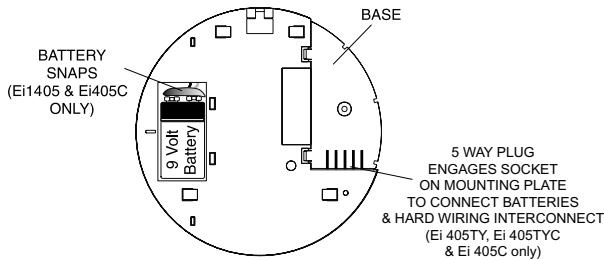


Figure 1b

- ¥ 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 indicating the chamber is degraded.
- ¥ Plan your escape route.
- ¥ Proper protection usually requires more than one Smoke Alarm.
- ¥ If you have any doubt or query about Smoke Alarms consult the supplier or your local Fire Brigade.
- ¥ Models Ei405TY & Ei405TYC - When the Alarm beeps **and** the red light flashes at the same time or the blue light flashes every 9 seconds it indicates the battery is depleted and the entire alarm must be replaced. This normally occurs after 10 years has elapsed.
- ¥ Models Ei405 & Ei405C - When the Alarm beeps **and** the red light flashes at the same time replace the battery (see fig 1).

The wireless interconnect will operate as received once the batteries are connected. (Program units if nearby systems are likely to cause false alarms).

2. INTRODUCTION

Congratulations on purchasing Ei405 Radio Smoke Alarms. You can easily install these alarms throughout the house in closed rooms, corridors and in the attic for the fastest response to developing fires.

Closed doors are great for slowing down the spread of fire, but unfortunately they can also greatly slow down the response time of alarms, as they block the smoke getting to them. Without interconnection, closed doors also greatly reduce the alarm sound level throughout the house, so even though the fire is detected early, the alarm may not be heard.

The Ei405 Radio Smoke Alarms offer the comfort of interconnection without the hassle of installing the interconnect wires. The wireless interconnect helps ensure the alarm will be heard everywhere - including most importantly, the bedrooms.

The wireless interconnect will operate as received once the batteries are connected. To check operation, first connect all the batteries (see section 1) and then hold down the test button on the first unit until the blue light comes on continuously for 3.5 seconds. All the other smoke alarms will respond within 5 seconds. If there is any possibility of a neighbour having a similar system, you should program your units so your system will not cause his/hers to alarm or vice versa. This is easily done and only takes a few minutes- see below (section 6.3).

A remote control Ei410 is available to allow you to test and hush the alarms, without having to reach up to the smoke alarms on high ceilings. The remote control also has a "Locate" button to identify the unit causing the alarm - this is

excellent, particularly at night, as it rapidly identifies where the fire is located. This is ideal for larger systems as the disturbance in the house can be kept to a minimum e.g. no need to enter all the bedrooms to check to see if the red light is flashing rapidly.

3. 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. The smoke alarms need to be in positions where they can be heard throughout your home, so they 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.

3.1 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 2).

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 2, 3, & 4



for minimum protection

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



for recommended protection

- in addition
- ¥ in every room (except bathrooms and kitchens)

Figure 2: Single storey dwelling

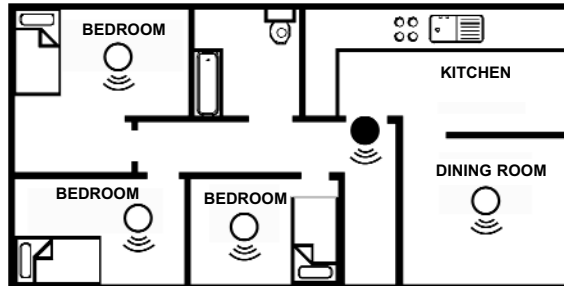
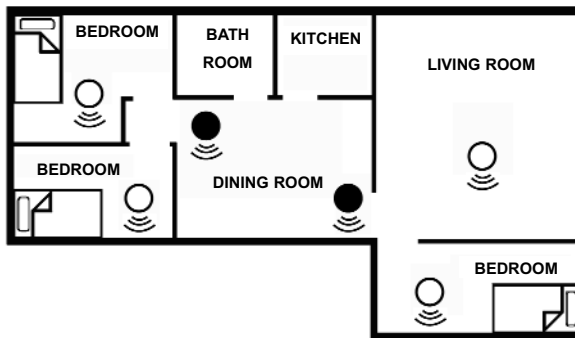


Figure 3: Single storey dwelling with separate sleeping areas.

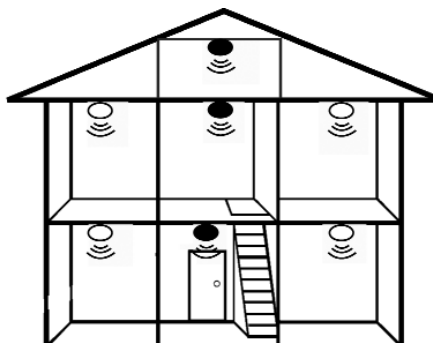


In houses with more than one sleeping area, Smoke Alarms should be placed between each sleeping area and the living area (for example, see figure 3).

3.2 Multi Storey Dwellings

If your home has more than one floor, at least one alarm should be fitted on each level (see figure 4). The Ei405 Radio smoke alarms are ideal in this situation as they are automatically interconnected without wiring.

Figure 4: Multi Storey Dwelling



3.3 Recommended Protection

For recommended 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.

3.4 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 Hi-Fi System. The Hi-Fi system 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. These Wireless interconnect smoke alarms will help to ensure the alarm will be heard throughout the house.

Figure 5

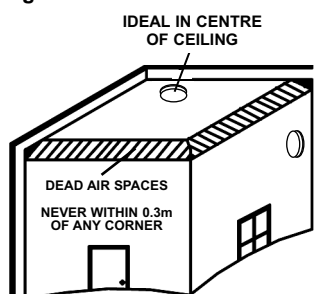
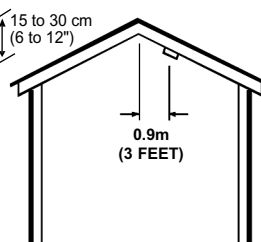


Figure 6



4. POSITIONING YOUR SMOKE ALARM

4.1. Hot smoke rises and spreads out, so a central ceiling position is the recommended 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 5.

4.2 Wall Mounting

When a ceiling position is not possible (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 5).

4.3 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 6), because dead air at the apex may prevent smoke from reaching the unit.

4.4 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.
- ✘ Locate unit at least 1.5m 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.

4.5 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.

If you installed the smoke alarms as received and did not program them, you may be receiving an alarm signal from a neighbouring system. This can be easily rectified by house coding your alarms (see section 6.3).

Pressing the test & hush button on the smoke alarm sensing fire (i.e. with the red light flashing rapidly) will silence the alarm for 10 minutes. (Pressing the hush button on the optional Ei 410 Remote Control acts in the same way).

5. INSTALLING YOUR SMOKE ALARMS

1. Select a location complying with the above advice.
2. Remove the mounting plate from the Smoke Alarm by releasing the tamperproof catch with a small screwdriver as shown in figure 1a and sliding the alarm from the mounting plate.
3. Place the base on the ceiling/wall exactly where you want to mount the unit. With a pencil, mark the location of the two screw holes.
4. 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.
5. Connect the battery to the battery snaps as shown in figure 1b (models Ei405 & Ei405C only).
6. Carefully line up the unit on the base and slide on. (This connects the batteries in the Ei 405C, TY, TYC units).

Install all the other alarms similarly.

6. LOOKING AFTER YOUR SMOKE ALARMS

6.1 Manually Testing your Smoke Alarm

It is recommended that you test your Smoke Alarm at least weekly 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.

Press and hold the Test Button until the alarm sounds (Figure 7). The alarm will stop sounding shortly after the button is released.

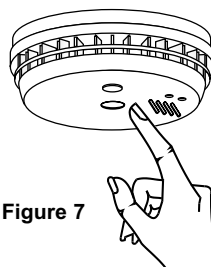


Figure 7

If the alarm fails to sound, follow this checklist:

- ✘ Check the age of the unit - see the replace by label on base of unit.
- ✘ Check the battery snaps are firmly connected on the Ei405 & Ei405C models (see fig 1b).
- ✘ On the Ei405TY & Ei405TYC models ensure the unit is pushed fully home on the mounting plate, as this connects the battery.
- ✘ Check for any sign of contamination such as cobwebs or dust and clean the alarm as described on page 12 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.

6.2 Checking the Wireless Interconnect

We recommend that the interconnect is tested weekly as follows:

1. Press and hold the test button on the first alarm for 5 seconds (count up to 10).
2. The horn will sound and then the blue light will come on continuously for 3.5 seconds. (This indicates that the unit is transmitting a Radio Alarm signal to the other units). Release the test button. The local alarm will cease and you should then be able to hear the other alarms sounding in the distance.
3. Repeat this procedure for all the other alarms.

If any units appear not to operate remove models (Ei405 & Ei405C only) from the mounting plate (as shown in figure 1a) and ensure battery is firmly connected to the snaps. If the wireless link does not appear to operate ensure you have held the test button down until the blue light has come on continuously (this could take up to 5 seconds).

(If there still appears to be a problem with the wireless link it may be necessary to resite/rotate some units - see section below on "House Coding your Units").

We strongly recommend that you house code your units so that your system will not be triggered by similar systems in the neighbourhood.

6.3 House Coding your Units

The units can transmit and receive over 150 metres minimum (in free space) so it is important to ensure neighbouring systems do not interfere with your system. The following procedure programs the units so each learns the serial numbers of all the other units on the system. After they have been programmed they will only communicate with units programmed at the same time (that were within range).

Program Procedure

1. Press the test button on the first installed unit three times within 1.5 seconds. The blue light will come on momentarily each time to show the button is operating. (If the horn sounds during these short button depressions, just ignore it). The blue light will now flash once every 5 seconds. The unit now sends a radio message every 5 seconds stating it is in the program mode and containing its own serial number. It is also looking for similar messages from other units.

2. Similarly press the test button three times on the second installed unit. After about 30 seconds each of the two units will be flashing the blue light twice every 5 seconds to indicate it has detected and learned the serial number of two units (i.e. itself and the other unit).

3. Similarly press the test button on the third unit, three times to put it in the program mode. After about 30 seconds all the units will be flashing the blue light three times every 5 seconds to indicate there are now three units on the system.

4. Similarly press the test button three times on all the other units to put them in the program mode. (If a Remote Control Ei410 is to be used it must also be put into the program mode at this time by holding the Test and Locate button down simultaneously (see "RF Remote Control" section below). On each smoke alarm the blue light will flash rapidly to show the number of units with which it has communicated.

The units will stay in program mode for 15 minutes and then reset automatically. (A smoke alarm can be taken out of program mode quickly by pressing the test button three times in 1.5 seconds).

N.B. The quickest method of programming the system is to put all units into the program mode at the same time.

Additional Units

Additional RF alarms can be added to the system at any time. Simply put all the units, the additional units and those previously installed, into the program mode at the same time.

6.4 Troubleshooting RF Interconnection

If, for example, there are 6 units in the system, but two of the units are only flashing 5 times, it indicates that these two units are not communicating. Try resiting / rotating the units (e.g. move it away from metal surfaces or wiring) until they both flash 6 times while in the program mode.

Note: Resiting/rotating units may move them out of the range of existing units even though they may have learned all serial numbers in the system. It is important therefore to check that all 6 detectors are communicating in their final installed positions.

Clear the serial numbers learned by:

- disconnecting the battery
- waiting 10 seconds
- holding the test button down while re-connecting the battery snaps to the Ei405 & Ei405C only. With the Ei405TY & Ei405TYC models hold the test button down while sliding it on to the mounting plate.

Then put it into the program mode by pressing the test button three times within 1.5 seconds. It will now flash the blue light once every 5 seconds indicating there is just one unit (i.e. itself) in the system.

Put all the other units into the program mode and confirm that the blue light on each unit is flashing 6 times every 5 seconds indicating that RF links are now all satisfactory.

RF Remote Control Ei 410 (Optional)

The optional Remote Control Ei410 allows you to test, hush or locate units.

Test:

Press Test button on remote control. The red light on the control will come on continuously to indicate it is transmitting an RF signal. The Smoke Alarms within range will alarm in 10 seconds, with the red light on the smoke alarm flashing rapidly. (This indicates that the chamber has been tested in exactly the same way as if the test button on the unit itself had been pressed).

Hush:

If a unit is giving a nuisance alarm e.g. from cooking fumes, pressing the Hush button on the remote control, within range of the alarm, will silence it for 10 minutes. Note only units sensing smoke i.e. with their red light flashing rapidly, will have their smoke sensitivity reduced. However, all units will be silenced.

Locate:

If all the units are in alarm due to one sensing smoke, pressing the Locate button on the remote control within range of each unit will silence all units except ones sensing smoke. (Note this is different to the operation of the Hush button which silences all units). This is a very useful feature, when for example twelve units are alarming simultaneously, as the unit initiating the alarm can be quickly identified (even in a closed bedroom) and the problem quickly resolved.

House Coding:

If you are **house coding** your Smoke Alarms you must also include the Remote Control. It is put into program mode by holding down the Test & Locate buttons simultaneously until the red light flashes. The flashing will continue for 15 minutes indicating the remote control is in program mode.

The unit can be quickly removed from the program mode by holding down the Test & Locate buttons simultaneously. (The house coding can be removed, if necessary, from the remote control by first disconnecting the battery for 10 seconds and then reconnecting the battery while holding down both the Test & Locate buttons).

6.5 Power Indicator Light.

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

6.6 Hush Feature

These smoke alarms have a silencer feature to help you control nuisance false alarms.

1. To cancel a false alarm, press the test & hush 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. It can also be silenced using the Hush Button on the optional remote control Ei 410, provided it is sensing smoke itself.

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.

6.7 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.

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.

6.8 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 a red light flash, return the unit for service (see Getting your Smoke Alarm Serviced).

6.9 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 minimise 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 an ionisation type Smoke Alarm. The principle of ionisation detection makes it less vulnerable to the effects of dust or insect contamination.

6.10 Replacing the Battery (Model Ei 405 & Ei405C only)

A fresh Alkaline Battery should last for over a year. When the battery power is low and replacement is necessary, the Alarm will beep and the red light will flash at the same time about once per minute for at least 30 days. The battery must then be replaced. Replace the battery if the alarm does not sound when the Test Button is pressed. For maximum reliability, replace the battery at least once a year (see fig 1a for how to remove unit from the mounting plate).

6.11 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) Low Battery beeps (Model Ei 405TY & Ei405TYC only)
 The unit is giving a short beep every 40 seconds and the red light flashes at the same time for longer than 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, remove from the mounting plate (Ei405TY & Ei405TYC only) to stop beeps or the possibility of the unit alarming. With the Ei405 & Ei405C just disconnect the battery. **Do not put the Smoke Alarm into a fire.**

7. HARDWIRE INTERCONNECTION

(Models: Ei 405C & Ei 405TYC only)

Sometimes it may be required to interconnect to battery powered Ei Electronics Smoke Alarms which do not have wireless interconnect. If any of the interconnected units detect smoke the Ei 405C & Ei 405TYC model will send a Radio alarm signal.

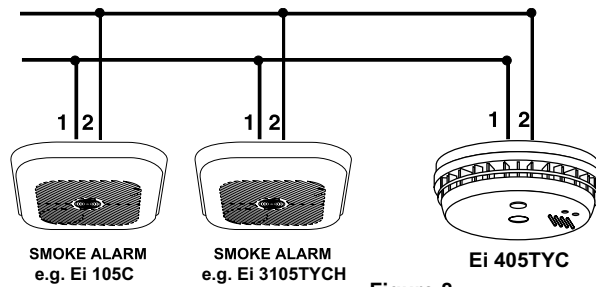


Figure 8

A maximum of twelve (Ei 405C, Ei 405TYC, Ei 3105TYC, Ei 100TYC, Ei 105C, Ei103C or Ei 100C only) Smoke / Heat 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.

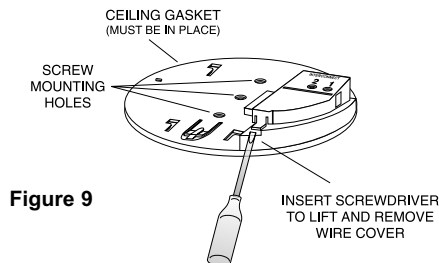
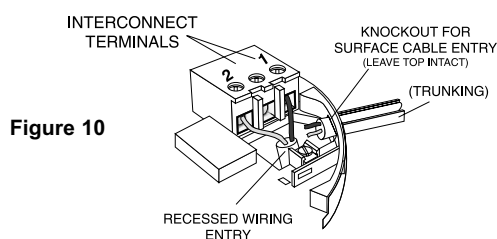


Figure 9

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 fig 8) before screwing the mounting plate 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.

1. Remove the Smoke Alarm from the mounting plate as shown in fig 1a
2. Lift the wiring cover on the mounting plate as shown in fig 9.
3. Connect the two core cable to the terminal block as shown in fig 10.
4. Replace the wiring cover and attach the smoke alarm to the mounting plate.



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.

Check the Radio Interconnect as described above.

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.

8. IMPORTANT SAFEGUARDS

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

- ¥ 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 or press the test / hush button.
- ¥ Do not attempt to remove, recharge or burn the 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).
- ¥ 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.

8.2 Limitations of Smoke Alarms

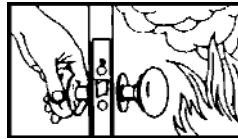
Smoke Alarms have significantly helped to reduce the number of fire fatalities in countries where they are widely installed. However independent authorities have stated that they may be ineffective in some circumstances. There are a number of reasons for this:

- ¥ 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.
- ¥ Radio Interconnect may not work due to interference or the signal being blocked by furniture, renovations etc.
- ¥ 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 familiarise 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.

9. 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 pre-arranged 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.

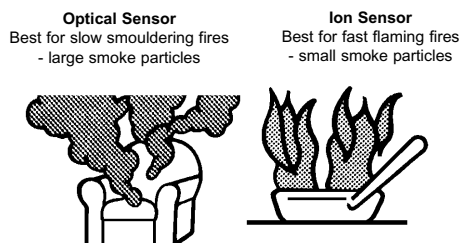
This device cannot protect all persons at all times. It may not protect against the three most common causes of fatal fires:

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.

10. 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 3105TYCH and Ionisation Smoke Alarm Ei 100TYC with built-in Lithium battery. For **dual** protection install each type.



These can be hard wired interconnected to the Optical Ei405C or Ei405TYC alarms for wireless transmission of alarm signal between floors.

The Home Office states (in FB2):

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.

11. GETTING YOUR SMOKE ALARM SERVICED

If your Smoke Alarm fails to work after you have read the sections on Installing your Smoke Alarms 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 battery disconnected (Ei405 & Ei405C only). The Ei405TY & Ei405TYC must be removed from the mounting plate to disconnect the batteries (see fig 1a). 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.

12. 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.

The replaceable battery in the Ei405 & Ei405C is not covered by this guarantee.

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

Ei Electronics Ltd.

Shannon, Co. Clare, Ireland.
E-mail. eielectronics@eiltd.ie
www.eielectronics.com

AICO Limited.

Mile End Business Park,
Oswestry, Shropshire,
SY10 8NN, U.K.
E-mail: enquiries@aico.co.uk
www.aico.co.uk

13. TECHNICAL SPECIFICATION

Battery: Replaceable 9 Volt Alkaline Duracell
(Ei405 & 405C only) MN1604, Energizer 522 or Eveready 522.

Battery Life: Battery can power unit in standby for over
(Ei405 & 405C only) a year.

Battery: Built-in Lithium Battery.
(Ei405TY &
Ei405TYC only)

Battery Life: Lasts up to 10 Years.
(Ei405TY &
Ei405TYC only)

Power on Indicator: Red light flashes every 40 seconds.

Smoke Sensitivity: Meets or exceeds requirements of
BS5446-1: 2000.

RF & EMC: Complies with the requirements of the
RTTE Directive Compatibility 1999/5/EC
(RF Performance to EN300220-3, EMC to
EMC 301489-3).

Approvals: Complies with BS5446-1: 2000.

Test/Hush Button: Checks smoke sensor, electronics and
horn. Also silences nuisance alarms for
10 minutes and then resets.

Humidity Range: 15% to 95% RH (non-condensing).

Audible Alarm: 85dB at 3m (minimum).

Chamber Fault: The unit checks the sensing chamber
every 40 seconds, and it beeps if a fault is
found (with red light flashing).

Radio Frequency: 868.499 MHz (Regulated 1% duty cycle
band).

RF Power: +5dBm.

Range: 150 meters (minimum) in free space.

Local Hush Mode: When test/hush button is pressed only
that unit goes into hush

RF RECEPTION

External Alarm

RF Signal: Turns on horn without red light flashing until it fails to receive alarm confirmation for 11 seconds. Stops horn within 3 seconds, on receipt of an "Alarm "Cancel" signal (from any unit). Receiver remains on "continuously" for 11 seconds to check for further alarm signals.

Length of

Program Mode: 15 minutes

Remote Test Button: Turns on test button so red light flash, I/O (Keyfob Ei410) line high. No RF message sent by smoke alarm

Remote Hush: It silences its horn for ten minutes (Keyfob Ei410)

Remote Locate: Stops smoke alarm sounding unless it is in (Keyfob Ei410) local alarm itself i.e. detecting smoke

RF VISUAL INDICATOR (BLUE)

Test Button: Blue light indicates test button pressed.

On Transmission: Blue LED lights continuously for 1.5 to 3.5 seconds while messages are being transmitted

Low Battery

Indication: Unit beeps and red light flashes every 40 seconds. On Ten Year battery units, Ei405TY, blue LED also flashes every 9 seconds if radio battery is low

Size of System: A maximum number of 32 units can communicate together on one system (however the range is likely to be the limiting factor in many cases)

Communication: All units will communicate together as shipped (units uncoded). After a unit has been programmed it will only communicate with units whose serial numbers it has learned (i.e. is house coded)

Entering Program

Mode: Pressing the test button three times within 1.5 seconds puts the smoke alarm in program mode.

The blue light will turn on as the button is pressed.

Program Mode: Number of fast flashes every 5 seconds indicates number of units (including remote keyfob, Ei410, if used) in system

Clearing House Codes: The serial numbers memorised, can be deleted (i.e. the smoke alarms can be uncoded) by powering down the unit and disconnecting the battery. Wait 10 seconds. Then hold down the test button while connecting the battery

Hard Wired Interconnect: Up to 11, Ei105C, Ei103C or Ei3105TYCH can be connected with 2 core cable to an Ei405C or Ei405TYC. RF Alarm signal will be transmitted if any unit senses smoke.

