Ei650 Series Smoke Alarm

Operating Instructions

Congratulations on
buying an Ei650
smoke alarm
from Ei Electronics!

Achtung – Attention – Attenzione

Dieses Produkt ist ausschließlich für den Verkauf im deutschsprachigen Raum bestimmt. Rechtliche Ansprüche in anderen Ländern entfallen. Sollten Sie das Produkt anderswo erworben haben, returnieren Sie es bitte an den Händler, bei dem Sie es gekauft haben.

This product is intended exclusively for sale in German-speaking countries. Legal claims in any other countries shall be excluded. If you acquired the product elsewhere, please return it to the dealer where you purchased it.

Ce produit est en vente exclusivement dans l'espace germanophone. Personne ne pourra donc faire valoir un droit dans d'autres pays. Si vous avez acheté le produit ailleurs, veuillez le retourner au détaillant auprès duquel vous l'avez acheté.

Questo prodotto è destinato esclusivamente per la vendita nei paesi di lingua tedesca. Non è possibile far valere pretese legali in altri paesi. Se avete acquistato il prodotto altrove, si prega di ritornarlo al rivenditore presso il quale è stato acquistato.

For an early warning in the event of a fire, install this smoke alarm on every floor in your building and in escape routes, hallways and enclosed rooms to make sure you are protected against fire. Heat detectors can be installed in kitchens and other areas where smoke alarms are not suitable (if these rooms are not going to be used as escape routes).

The i series has been specially developed as a high-end, sophisticated product range. An integrated microprocessor and the extra yellow diagnosis LED allow potential faults to be minimised during regular maintenance, which means unscheduled servicing can be avoided.

The Ei650C and Ei650iC models can be wire-linked or interlinked wirelessly to form a network, ensuring the alarm can be heard throughout the building in an emergency. Wireless interlinking requires special radio models (Ei650M/Ei600MRF). The modules must be purchased separately. The Ei650W and Ei650iW models can only be interlinked using radio modules.

The Ei650 and Ei650i models are stand-alone smoke alarms that cannot be interlinked using wires or wirelessly (see table).

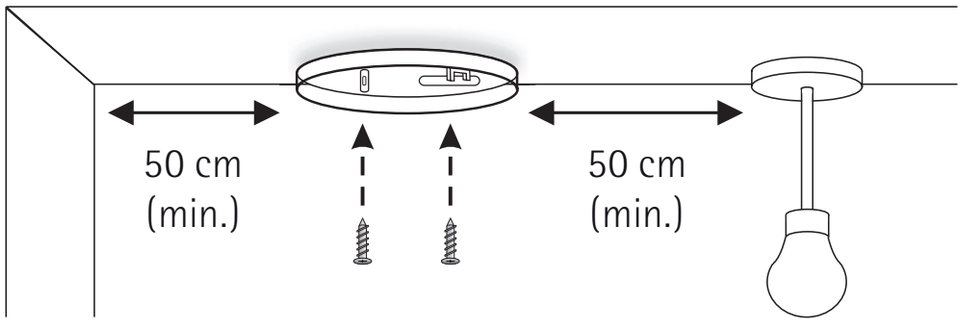
Model	Can be wire-linked	Wireless compatibility	Optional radio module
Ei650	No	No	No
Ei650W	No	Yes	Ei650M/Ei600MRF
Ei650C	Yes	Yes	Ei650M/Ei600MRF
Ei650RF	No	Yes	Included
Ei650i	No	No	No
Ei650iW	No	Yes	Ei650M/Ei600MRF
Ei650iC	Yes	Yes	Ei650M/Ei600MRF
Ei650iRF	No	Yes	Included

Contents

1

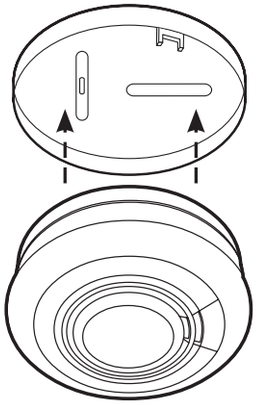
Quick guide

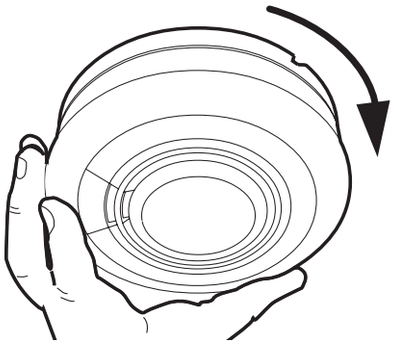
1 Look for the right place to install the alarm. Fix the mounting plate onto the ceiling.



The smoke alarm should be installed on the ceiling, at least 50 cm away from walls and obstructions and ideally in the centre of the room.

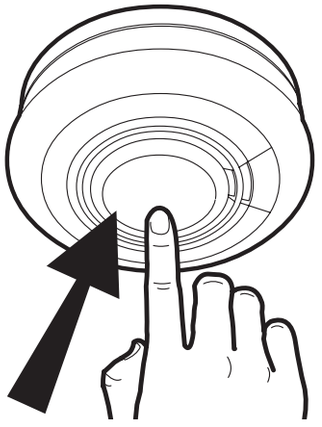
2 Place the alarm onto the base and turn it.





The battery is automatically activated by twisting the device onto the base.

3 Test alarm



Press the test button. Test the alarm at regular intervals, at least once per year, in accordance with DIN 14676.

2

Choosing a location

2.1 How smoke alarms and heat detectors work

Before a smoke alarm goes off, a sufficient amount of smoke must have entered the smoke chamber. The smoke alarm should be located less than 7.5 m from the source of the fire in order to respond quickly. The devices must be installed in locations where they can be heard throughout the building, so that all inhabitants can wake up and get out quickly in an emergency. A single smoke alarm can offer limited protection if it is installed properly, but two or more alarms (preferably interlinked) are needed in most houses to ensure that a warning is given quickly enough. For optimum protection, a smoke alarm should be installed in every room in which a fire could break out (except the kitchen and bathroom).

The first smoke alarm to be installed should be placed between the bedroom and the most likely source of a fire (for example, the living room). It should be located no more than 7.5 m from the door of a room in which a fire could break out and block the escape route.

Heat detectors sound when the temperature on the heat detector reaches 58 °C. They are recommended for use in kitchens, garages, boiler rooms and other areas in which there is often a large amount of steam or dust. Smoke alarms cannot be installed in these locations without the risk of repeated false alarms. A heat detector should only be used in rooms that adjoin escape routes in which smoke alarms are installed.

2.2 Location

First check what legal requirements there are in your federal state for installing smoke alarms. Please refer to local building regulations for the exact requirements*. Fire prevention experts recommend that smoke alarms should be installed at least in every bedroom and every child's room, as well as in the escape routes for these rooms (except in unsuitable rooms such as the kitchen and bathroom).

Multi-storey homes

If there is more than one storey in your home (see Figure 1), at least one alarm should be installed on every floor. Preferably, the alarms should be interlinked (if this function is available on your device) so that the alarm sounds throughout the building. Radio modules, which are easy to install, are ideal for this, as the alarms can be interlinked by radio – no wires are needed.
For even better protection, you should install heat detectors in kitchens, garages, boiler rooms, etc. Smoke alarms are not suitable for these rooms.

Heat detectors should be interlinked to the Smoke Alarms.

* Visit www.rauchmelder-lebensretter.de/rauchmelderpflicht for further information

Smoke alarm

Fig. 1

Minimum protection

- Smoke alarm on every storey, in every bedroom and children's room and in the escape routes for these rooms

Optimum protection

(in addition to the measures already mentioned):

- Smoke alarm in every room (except the kitchen and bathroom)
- Heat detectors in kitchens, garages, etc.
- All devices interlinked (if this function is available)

Single-storey homes

If the building has just one storey (see Figure 2), place one smoke detector in every bedroom and every children's room at least, as well as in the escape routes for these rooms. Please refer to local building regulations for the exact requirements*. In buildings with more than one bedroom, smoke alarms should also be placed between the bedrooms and the living room. Heat detectors should be placed in the kitchen and garage.

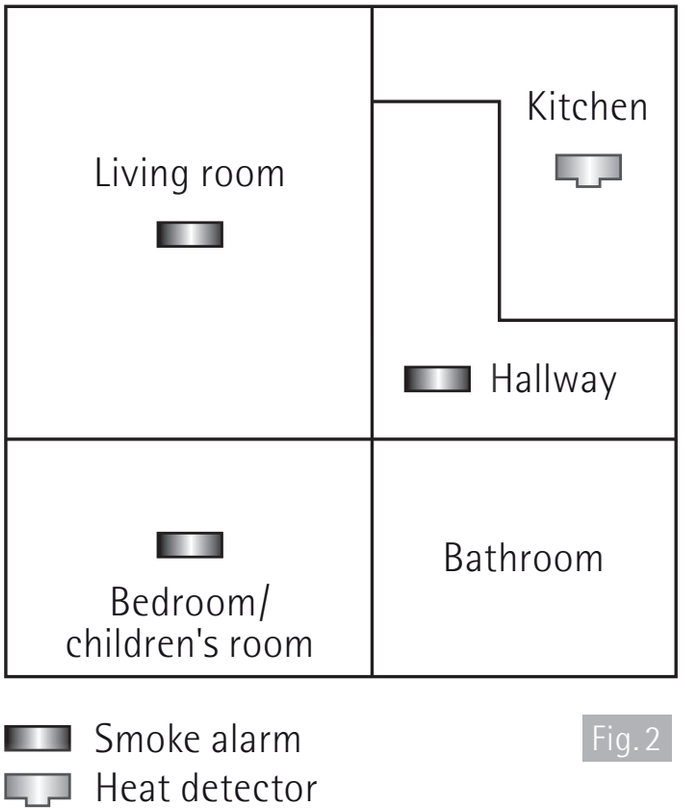


Fig. 2

Check if you can hear the alarm

Use activated alarms in the designated locations to check whether the alarm can be heard when the door is closed in each bedroom – including when there is music playing or noise from the TV. The TV/audio systems should be set to a normal volume. If you cannot hear the alarm due to other noise, there is a risk that you would not wake up in a real emergency. Interlinking alarms using wires or wirelessly (if this function is available) ensures that an alarm can be heard in the entire building.

* Visit www.rauchmelder-lebensretter.de/rauchmelderpflicht for further information

2.3 Positioning

Installation on the ceiling

Hot smoke rises and spreads across the ceiling of a room. Because of this, it is recommended that you choose a central position on the ceiling for installing smoke alarms. The air “stands still” in corners and does not circulate, therefore smoke alarms should never be installed in corners. Place the alarm at least 0.5 m away from walls and corners. Place the alarm at least 0.5 m away from lights or other decorative objects that could obstruct the smoke's penetration into the smoke alarm. In rooms and hallways less than 1 m wide, the smoke alarm should be installed in the centre of the ceiling between the walls (see Figure 3).

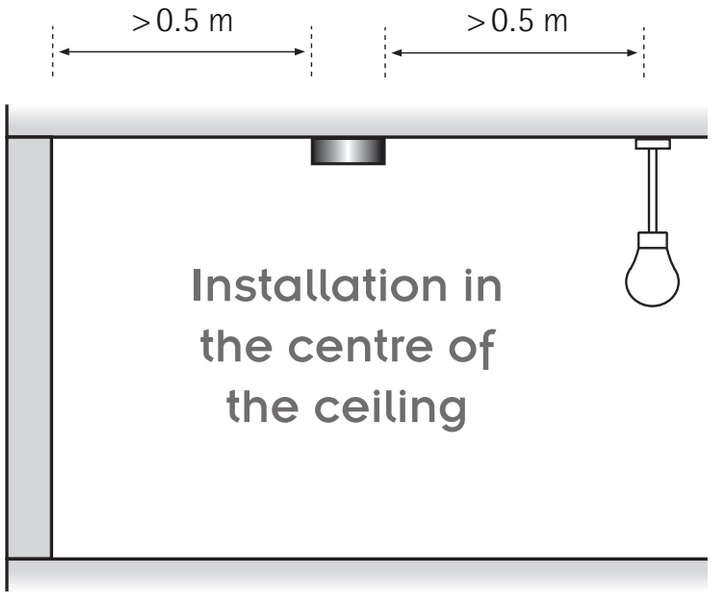


Fig. 3

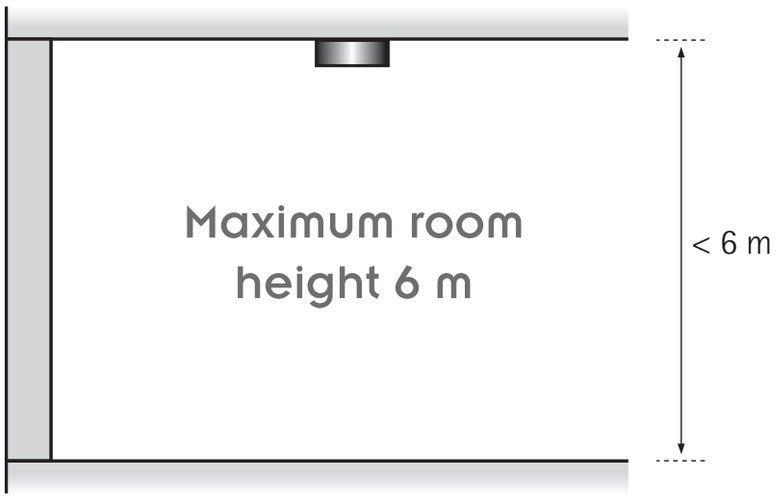


Fig. 4

Under the applicable standard, a smoke alarm can monitor an area of up to 60 m² (see Figure 5).

Fig. 5

Information on wall installation

In the following circumstances, smoke alarms can be installed on a wall, in the middle third of the longer side of a room (see Figure 6):

- Insufficient ceiling strength
- In hallways ≤ 6 m² (if a high number of false alarms are likely)
- In kitchens that are used as escape routes

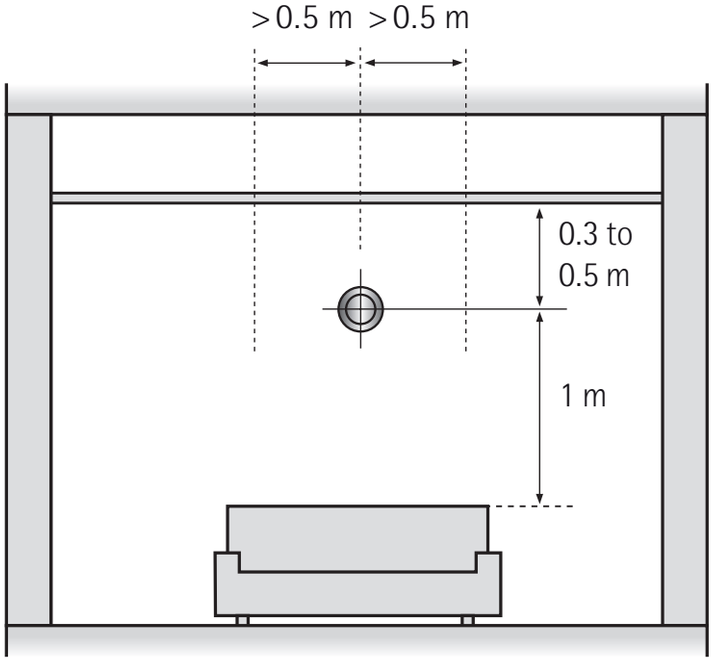


Fig. 6

The following distances from walls, ceilings and fixtures must be observed:
0.3 m-0.5 m from the ceiling
1 m below the smoke alarm
0.5 m to the side of the smoke alarm

Hallways

The distance from the front face of the hallway (hallway = max. 3 m wide) to the first alarm must not be more than 7.5 m. An alarm should be installed in corner areas (cornice joints), junctions and crossings in hallways. The maximum distance between two smoke alarms in hallways should be 15 m (see Figure 7).

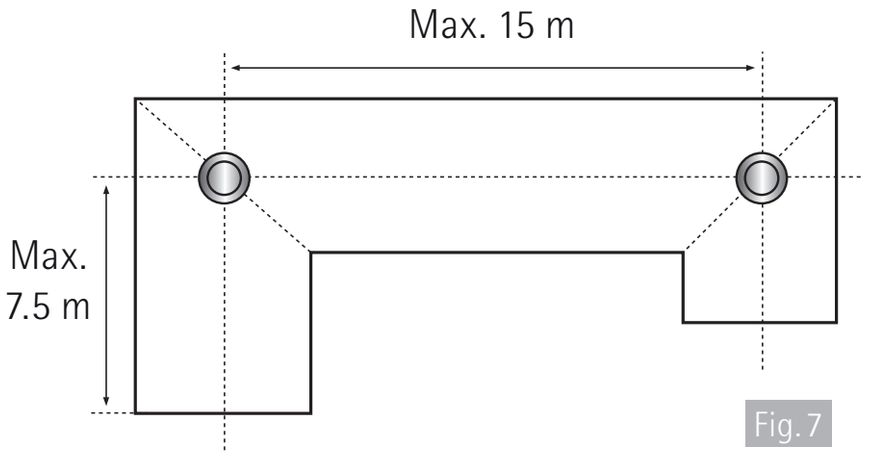


Fig. 7

Sloped ceilings

In rooms with inclined ceilings where the slope is more than 20° from the horizontal, pockets of heat can form in the ceiling apex which can prevent smoke from entering the smoke alarm. Therefore, smoke alarms must be installed at least 0.5 m and at most 1 m from the ceiling apex in these rooms (see Figure 8).

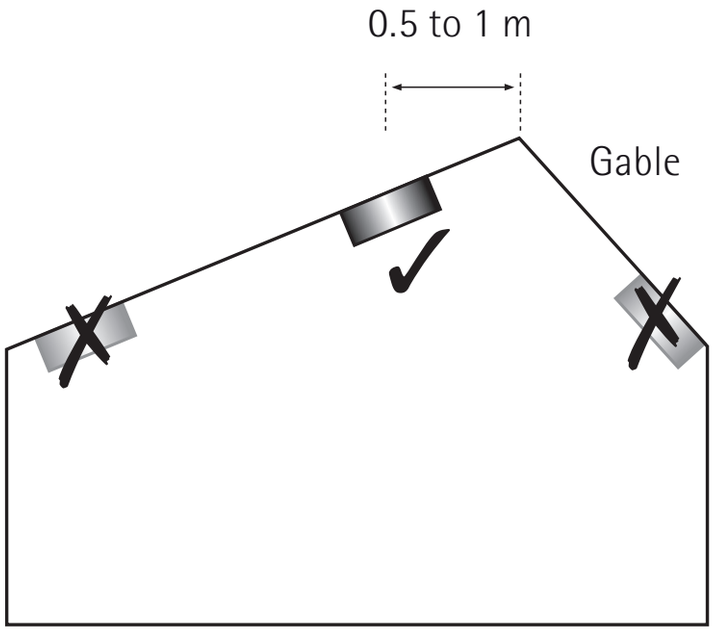


Fig. 8

Unsuitable installation locations

Do NOT install smoke alarms in the following areas:

- Bathrooms, kitchens, shower rooms, garages or other rooms where steam, condensation or dust could set off the alarm.

- Do not place smoke alarms in dusty or dirty areas, because dust particles can gather in the smoke chamber and impair the performance of the alarm. This can also block the insect screen, which may stop the smoke from entering the smoke chamber. Avoid areas where there are a lot of insects. Small insects that can get into the smoke chamber may set off a false alarm.

- Locations where the normal temperature may rise above 40 °C or drop below 0 °C (e.g. uninsulated lofts, boiler rooms, directly above ovens or boilers, etc.). Heat or steam may set off a false alarm.

- Next to decorative objects, doors, light fittings, window surrounds, etc., which may obstruct the smoke or heat from entering the alarm.

- On surfaces that are usually warmer or colder than the rest of the room. Due to the temperature differences, smoke or heat may not reach the alarm.

- Next to or directly over heating devices or air-conditioners, windows, wall vents, etc., which change the direction of air flow.

- In very high or inconvenient areas (e.g. above staircases) where the alarms are hard to reach (for testing and silencing purposes).

- Position the alarm at least 1 m away from dimmable lights and their wiring, as some dimmers can cause faults.

- Position wire-linked alarms at least 1.5 m away from fluorescent tubes and lay the cables at least 1 m away, as the device may be impaired by electrical "interference" and/or flickering.

3

Installation

How to install the alarm

1. Choose an installation location in line with the recommendations in section 2.

2. Remove the mounting plate from the smoke alarm by turning it anticlockwise (see Fig. 9).

3. Place the mounting plate on the ceiling in the exact location where you want to install the alarm. Mark the position of the two screw holes using a pencil.

4. For wire-linked alarms, use a suitable two-core cable at the marked positions of the individual alarms. Make the connections to the alarm (see section 4.2).

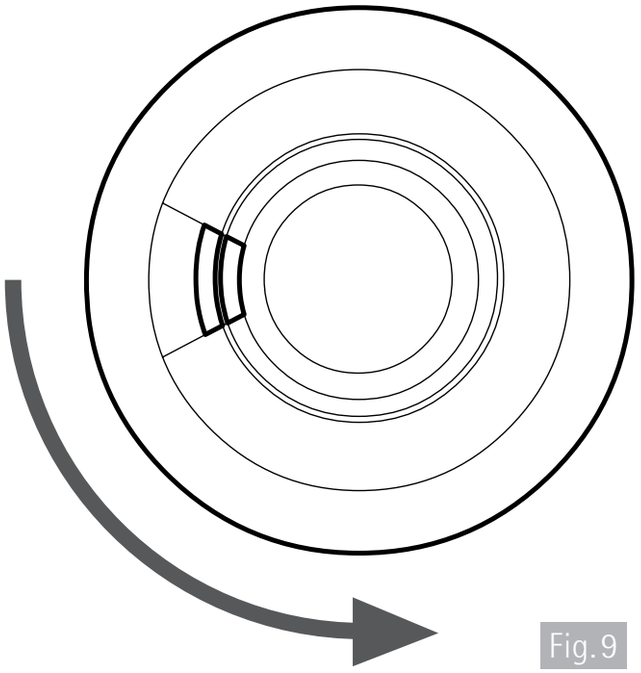
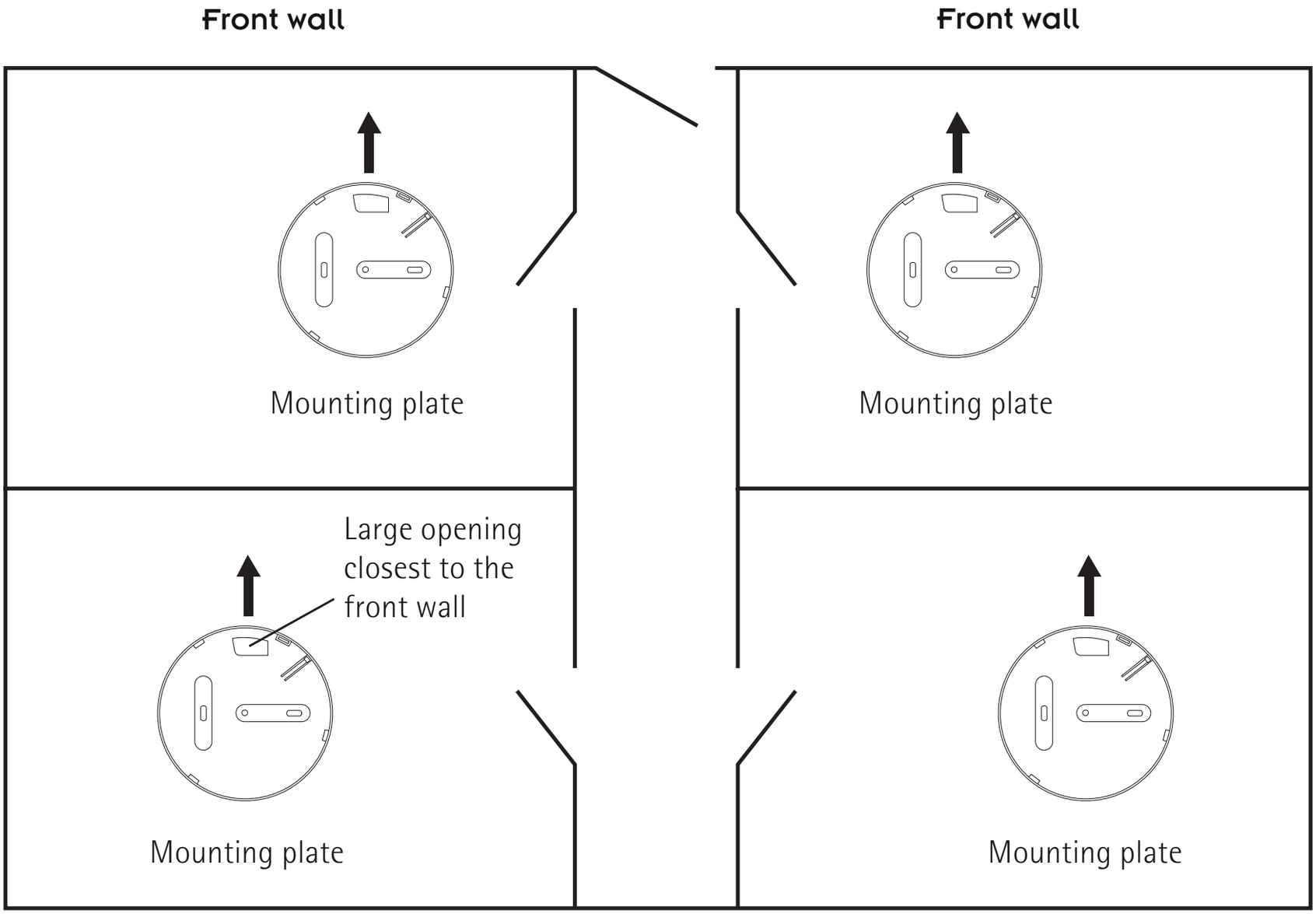


Fig. 9

Turn the device anticlockwise. If the device does not detach, it may have been installed with tamper proofing (see Figure 12c).

5. Ensure that there are no electric cables in this area of the ceiling and use a 5.0 mm drill bit to drill a hole in the centre of the marked positions. Insert the plastic dowels into the drill holes. Screw the mounting plate onto the ceiling. **If you decide to install the alarm in a different way, you must ensure the alarm is fixed to the ceiling permanently.** Smoke alarms with a radio module should be installed with the antennae in the same direction (i.e. largely parallel). To do so, choose part of the building – e.g. the front wall of the house – and then install the mounting plates so that they all face it (see Figure 10).



For optimum antenna performance, make sure all mounting plates are facing in the same direction.

Fig. 10

6. Carefully align the alarm with the base, push it home and twist it gently on. Install all of the other alarms in the same way.

7. Press the test button on each alarm to make sure that the device is working (Figure 11).

8. If you are fitting wired smoke alarms, read section 4.2.

9. If you are fitting radio-linked alarms, please follow the instructions for your radio module.

   Install all of the other alarms in the same way.

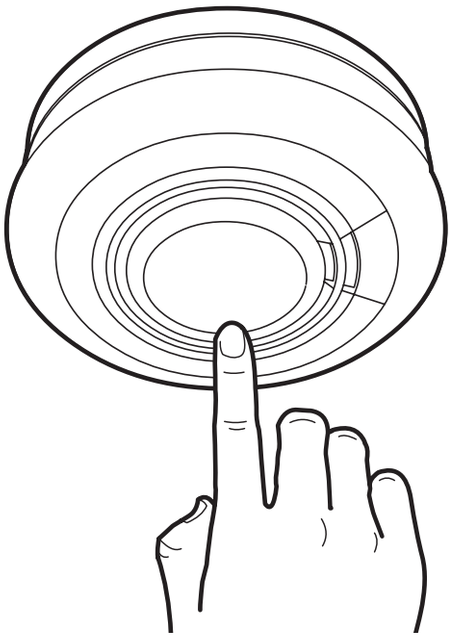


Fig. 11

Protecting the alarms from tampering (if required)

The alarm can be protected against tampering to stop it from being removed without permission.

Remove the small bar from the Alarm as shown in Figure 12a.
To remove the alarm from the ceiling, the catch must be released using a small screwdriver (press the catch towards the ceiling) and the alarm must then be twisted off (see Figure 12b).

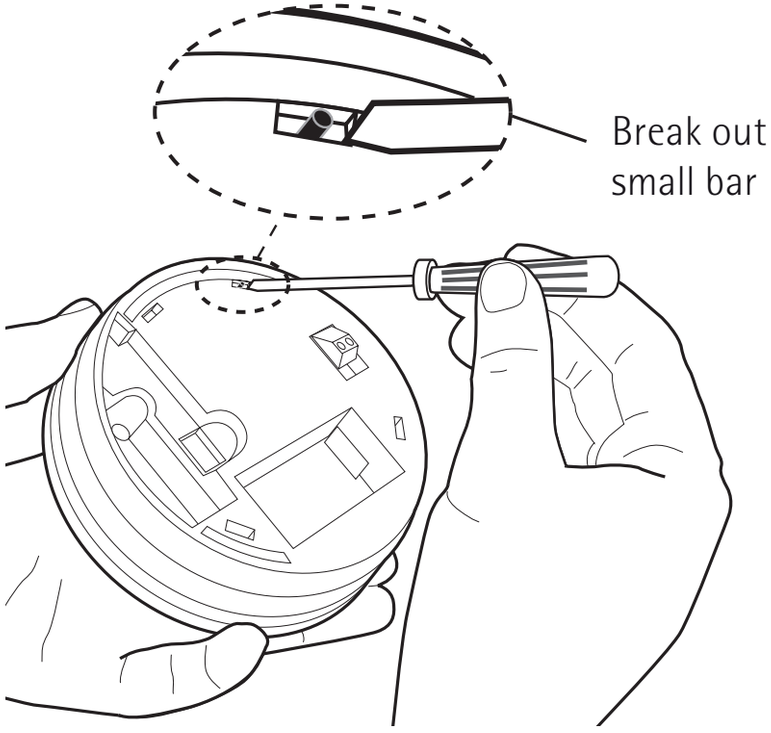


Fig. 12a

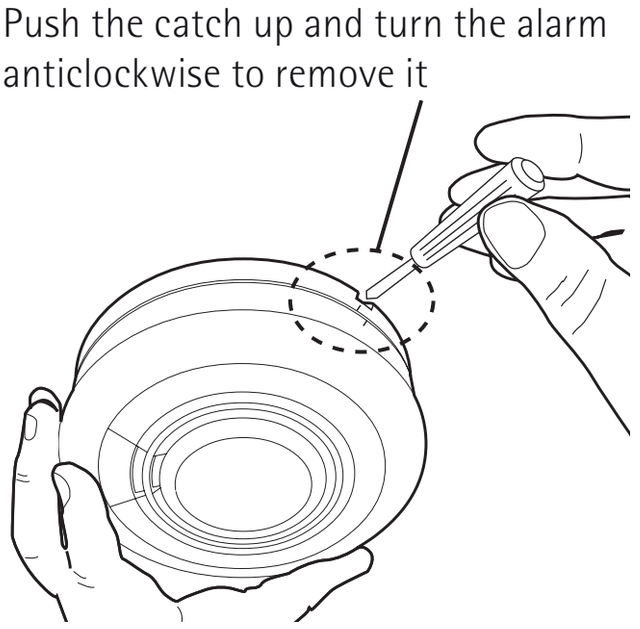


Fig. 12b

If necessary, the alarm can also be secured using a number 2 or 4 thread-cutting screw (diameter of 2-3 mm – not included) with a length of 6-8 mm (see Figure 12d). This will fix the alarm to the mounting plate (see Figure 12c). First attach the alarm to the mounting plate.

Insert the screw (not included) into the "U"-shaped recess shown in Figure 12c and screw it down firmly.
To remove the alarm from the ceiling, first remove the screw and then turn the alarm anticlockwise.

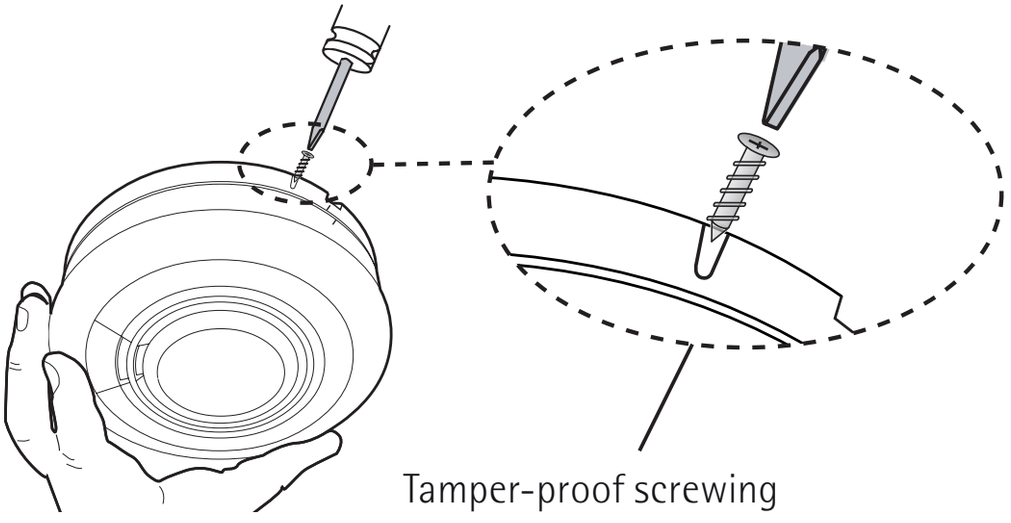


Fig. 12c

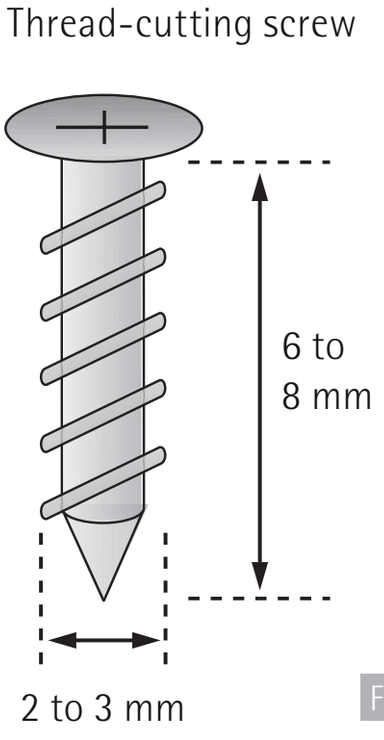


Fig. 12d

4

Interlinking

4.1 Radio-interlinking

The Ei650W, Ei650C, Ei650iW and Ei650iC models can be interlinked wirelessly using radio. The Ei650M or Ei600MRF radio module is required for this. You simply insert it into the back of the smoke alarm. This ensures that if one alarm detects a fire, all interlinked alarms go off too and the alarm can be heard throughout the house.*

4.2 Wire-linking

We recommend interlinking up to 12 smoke alarms and/or heat detectors so that all devices will sound if one device detects a fire – (see Table 1 for alarms with wire-linking). This ensures that the alarm will be heard throughout the building. Do not connect any other kind of device, as this may damage the alarm or impair its performance. A maximum of 250 m of dual-core 0.5 mm–0.75 mm stranded signal wire may be used (maximum resistance between two alarm units: 50 Ohm). The alarms are connected up by wiring together all terminals marked "1" and all terminals marked "2" (see Figure 13 a). Note: Draughts from cable openings, cable ducts or installation boxes/holes can draw smoke out of the smoke chamber, reducing the sensitivity of the smoke chamber. It is extremely important to seal all openings in the ceiling with silicone or a comparable sealant.

* Visit http://www.eielectronics.de/funkrauchmelder/funk-system for more information

1. Run the dual-core cable to the alarm locations.
2. Pull the cable through the openings in the mounting plate (before you screw the mounting plate onto the ceiling), see Figure 13b.
3. When you are laying the cable along the surface, simply break open the two recesses (see Figure 14a).
4. Lift out the terminal block vertically using a small screwdriver (see Figure 14b). Fit the cables in the terminal block.
5. Screw the two cable cores firmly into the terminal block (see Figure 14b). Then carefully push the terminal block back onto the two base pins.
6. Twist the alarm onto the mounting plate clockwise until it clicks into position. Install and connect all of the other alarms in the same way.

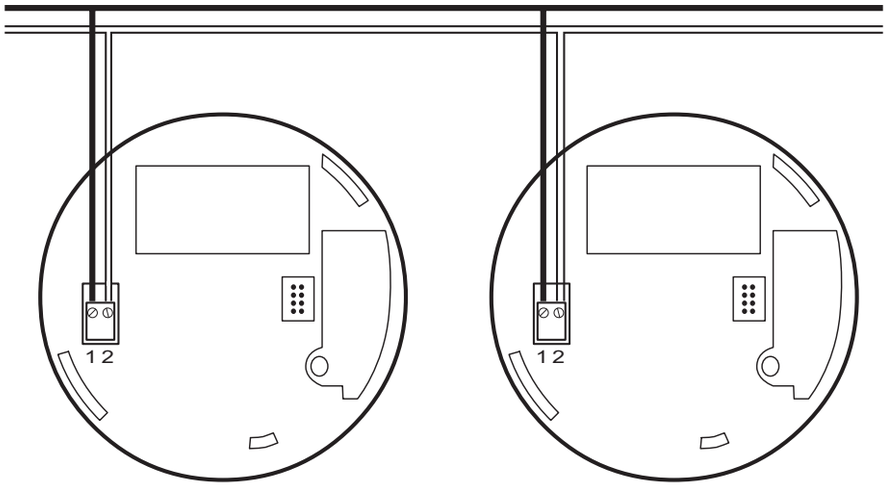


Fig. 13a

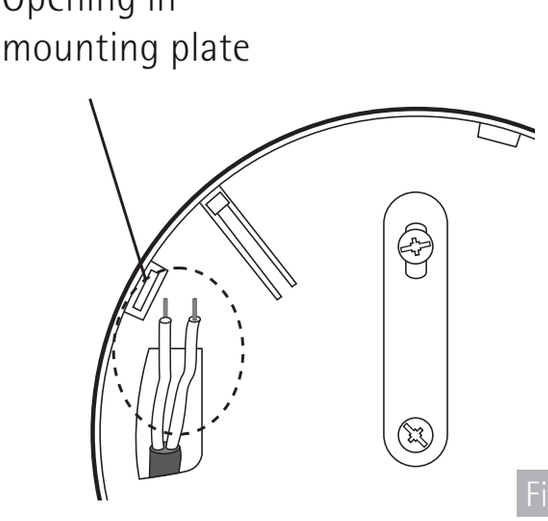


Fig. 13b

7. Now test the first alarm by pressing and holding down the test button (this may take up to five seconds). The red LED will flash every 0.5 seconds and all alarms should sound (note: After the test button has been released, this alarm unit will stop sounding but the interlinked alarms will keep sounding for a few more seconds. This allows you to check whether the connection between the alarms is working). Test all of the other alarms in the same way.

Note: The alarms should only be interlinked in an enclosed living space belonging to one family or group. If they are interlinked with other, neighbouring living spaces, there may be false alarms. This is because not every resident will know, for example, that someone else is currently testing the devices, or whether steam from cooking in another flat has triggered a false alarm.

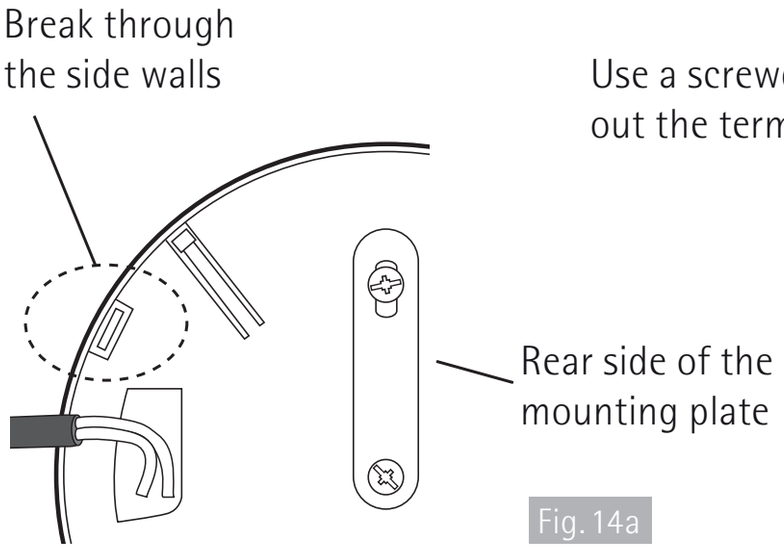


Fig. 14a

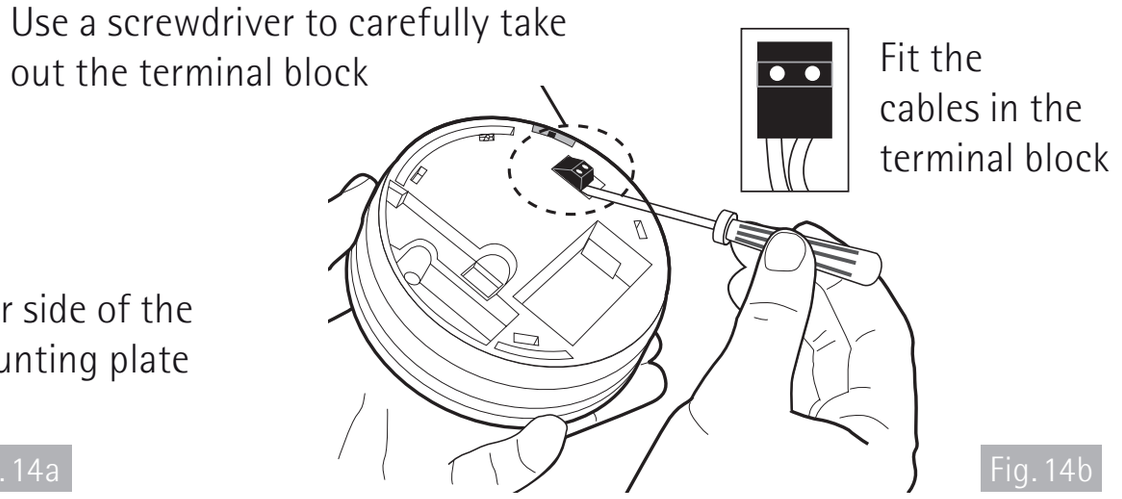


Fig. 14b

5

Testing, maintenance and readiness for use

5.1 Manually testing the smoke alarm

To ensure the alarm works, we recommend testing the alarm immediately after installation. After that, it should be tested regularly, and at least once per year.

This will allow you and your family to become familiar with the sound of the alarm.

- Hold the test button down until the alarm sounds and the red LED flashes (see Fig. 11 on page 21). To protect your hearing, the alarm slowly gets louder. The alarm will stop sounding shortly after you release the test button.
- If the alarms are interlinked using radio modules, hold the test button down until the green LED (Ei650M radio module) or blue LED (Ei600MRF radio module) on the alarm unit cover lights up and all the alarms sound. Check whether all of the other alarms have sounded.
- Release the test button. The alarm and all devices interlinked with it should stop sounding.
- Repeat this procedure with all other alarms in the system.

WARNING: Do not test your alarm using an open flame. The alarm unit could catch fire and damage fixtures. We recommend that you do not use smoke to test the alarm, because the results could be misleading unless special equipment is used.

Pressing the test button simulates the effect of smoke in the smoke alarm. Therefore it is not necessary to test the alarm with real smoke.

Specialist alarm companies: If you use a specialist alarm company to maintain your alarm, it must be tested at least yearly (+/- 3 months) in accordance with DIN 14676.

5.2 Test/silencer button for controlling false alarms

The smoke alarm has a combined test/silencer button to help you control false alarms.

If the alarm goes off but there is no sign of smoke or other hazards, you should still firstly assume that the alarm was triggered by a fire. The building must be evacuated immediately.

Check whether smoke or steam from another source, for example from cooking, has been blown past the alarm by a vent or a flue.

If false alarms occur frequently, you may need to move the alarm to a different location a sufficient distance away from these sources of error.

If you have installed alarms with radio modules and have not interlinked them using house coding, the radio modules may be picking up alarm signals from neighbouring systems. This can be rectified easily using house coding – refer to the operating instructions for your radio module.

1. To stop the smoke alarm from sounding when there is a false alarm (the red LED flashes quickly), press the test/silencer button. The smoke alarm will be switched to silent mode for approximately 10 minutes. During this time, the red LED on the cover of the smoke alarm will flash every 8 seconds, indicating that the device is in silent mode.

2. At the end of the silent mode period (10 minutes), the smoke alarm will reset itself.

3. If your kitchen is used or located in such a way that an unacceptable number of false alarms occur, position your smoke alarm further away so that it is less exposed to steam from cooking. We recommend using a heat detector in the kitchen to avoid this sort of false alarm.

5.3 Power supply – monitoring

5.3.1 What to do if an alarm beeps

1. If the smoke alarm beeps approx. every 32 seconds and the red or yellow LED flashes at the same intervals, it means that the lithium battery is almost flat and the smoke alarm needs to be replaced.
2. In models with a 10-year lithium battery and radio modules (installed), if the green LED (Ei650M radio module) or blue LED (Ei600MRF radio module) flashes every 10 seconds, this indicates that the radio module battery is flat and the radio module must be replaced.

5.3.2 Radio module alarm

If all radio alarms sound for 2 seconds every 4 hours, it means that at least one of the batteries in the system is flat.

5.4 Cleaning the alarm

Clean the smoke alarm regularly. Use a soft brush or the brush attachment of your vacuum cleaner to remove dust and cobwebs from the side vents where smoke would penetrate. To clean the alarm cover, wipe it with a damp cloth and dry it thoroughly.
WARNING: Do not paint the alarm!
Do not carry out any other servicing work on this product apart from the maintenance and repair work described in this booklet. If repairs are required, they must be carried out by the manufacturer.

5.5 Smoke alarm – automatic self-test

The smoke alarm will carry out an automatic self-test at regular intervals, with three possible results:

- **Test OK:** No signal
- **Weak power supply:**
  Acoustic signal emitted and LED flashes every 32 seconds
- **Defective component in Ei650, Ei650C and Ei650W:**
  2 x acoustic signals emitted and red LED flashes every 32 seconds
- **Defective component in Ei650i, Ei650iC and Ei650iW:**
  2 x acoustic signals emitted and yellow LED flashes every 32 seconds
  (see signal overview in section 6)

5.6 Dust and contamination from insects

Smoke alarms are sensitive to the penetration of dust and insects, which can trigger false alarms.

Ei Electronics alarms are made using state-of-the-art design expertise, materials and production methods to minimise the effects of contamination. However, it is impossible to eliminate the effects of dust and insects completely.

To ensure your alarm has a long service life, you should make sure it is kept clean and that dust does not accumulate. All insects or cobwebs in the immediate vicinity of the alarm should be removed immediately.

In certain circumstances, dirt may still collect in the smoke chamber and set off the alarm even if it is cleaned regularly. If this happens, the smoke alarm must be serviced or replaced. Ei Electronics has no control over contamination as it cannot be predicted and comes under normal wear and tear. Therefore the warranty does not cover contamination.

5.7 Replacing an alarm

The entire alarm must be replaced if ...

... the alarm is at the end of its 10-year service life or has reached its expiry date (check the replacement date on the device).

... the alarm does not emit a loud warning sound when the test button is pressed.

... the alarm indicates the battery is low, i.e. it emits a short beep every 32 seconds and the red or yellow LED flashes at the same time.
Before disposing of the alarm safely, remove it from the mounting plate (to interrupt the power supply and to prevent it from beeping due to the battery being low).

i series only: If you are not able to replace the device straight away, you can press the test button to silence the beep and turn off the yellow LED for 12 hours. This step can be repeated until the battery goes flat.

The alarm should be disposed of safely, in a way that does not harm the environment, at your local recycling centre. You can obtain more information about this from the local authorities. Never burn the alarm unit.

6

Interpreting signals

6.1 Normal mode

6.1.1 How to switch on the alarm

Twist the alarm onto the base to switch it on.
Ei650 series: The red LED flashes 1 x;
Ei650i series: The red and yellow LEDs each flash 1 x.
This shows that the alarm has been switched on properly and is now in operating mode.

6.1.2 Operating mode

In the normal operating mode, there are no active visual or acoustic signals that may disturb residents. Test the alarm at regular intervals, at least once per year, to ensure it is working properly.

6.1.3 Regular testing using the test button

Press and hold down the test button and make sure the red LED flashes quickly and the alarm sounds and rises up to full volume.

6.1.4 Smoke detection

As soon as the alarm detects smoke, it goes off (as do all interlinked alarms). The red LED on the alarm that detected the smoke flashes quickly.

6.1.5 Silencing false alarms

Occasionally, smoke alarms can be activated by other triggers, such as dust, insects or cooking fumes. If you are certain that it is a false alarm, press the large test/silencer button (e.g. with a broom handle) to silence the alarm for 10 minutes – the red LED will then flash every 8 seconds for 10 minutes.

6.1.6 Interlinked system sets off the alarm

You can tell which alarm has been set off by the red LED on it, which will be flashing quickly. In an interlinked system, a remote control can make it easier to localise the alarm. Once you have localised the device, follow the steps in section 6.1.5.

6.2 Fault indicators

6.2.1 Low battery

The battery will usually last for 10 years before it starts going flat. Check the date on the side of the device to see when the alarm should be replaced. If the automatic self-monitoring function identifies that the battery is going flat, the alarm beeps and the red LED flashes (approx. every 32 seconds) at the same time to warn the user (the yellow LED flashes on i series models). This indicates that the alarm must be replaced.

i series only: If you are not able to replace the alarm straight away, you can press the test/silencer button to switch off the beep and the yellow LED for 12 hours. This step can be repeated until the battery goes completely flat, but the alarm should be replaced as quickly as possible.

6.2.2 Contaminated smoke chamber

If the alarm goes off when there is no smoke, press the test button to silence the alarm for 10 minutes (as described in section 6.1.5). If the alarm goes off again despite this, it may be contaminated.

i series only: Press the test/silencer button within four minutes after the alarm goes off again and this will enable the alarm to compensate for the contamination in the smoke chamber. This normally solves the problem.
If the alarm goes off for a third time, it is contaminated excessively and must be replaced. If you are not able to replace the alarm straight away, press the test button within four minutes after the alarm goes off (for the third time) to silence the alarm for eight hours – it will emit two short beeps (one second apart) every 10 minutes to indicate that it has been deactivated.

(Note: This does not reduce the protection against fire, as an alarm that goes off constantly due to a fault is useless anyway and must be replaced. The steps described offer some additional benefits: The user is reminded every 10 minutes, by the two short beeps, that the alarm must be replaced.) If you press the test button again, you can silence the alarm for another eight hours.

6.2.3 Damage to the smoke chamber

If the sensors in the smoke chamber are damaged, the alarm gives two short beeps every 32 seconds and the red LED flashes at the same time. The alarm must be replaced if this happens.

i series only: If you are not able to replace the device straight away, you can press the test button to silence the beep and turn off the yellow LED for 12 hours. The red LED will continue to flash every 8 seconds. This step can be repeated until the battery goes completely flat, but the alarm should be replaced as quickly as possible.

Signal overview for Ei650	Red LED	Acoustic signal
Normal mode		
Alarm is operating	Off	Off
Starting up	1 x flashing	Off
Function test (press and hold down test button)	Fast flashing (0.5 sec.)	Gets louder until full volume is reached
Fire/smoke is present		
Alarm detects smoke and goes off	Fast flashing (0.5 sec.)	Full volume
Alarm goes off via interlinked alarm	Off	Full volume
False alarm		
False alarm caused by steam etc.	Fast flashing (0.5 sec.)	Full volume
Silencer (press and release button)	1 x flashing every 8 sec. (for 10 min.)	Off
Fault		
Flat battery	1 x flashing every 32 sec.	1 x beeping simultaneously
Fault in smoke chamber	2 x flashing every 32 sec.	2 x beeping simultaneously

Signal overview for Ei650i	Action	Red LED	
Normal mode			
Starting up	Twist onto alarm base	1 x flashing	
Alarm is operating		Off	
Function test	Press and hold down button	Fast flashing (0.5 sec.)	
Alarm detects smoke		Fast flashing (0.5 sec.)	
Silencer	Press and release button	1 x flashing every 8 sec.	
Alarm via interlinked alarm		Off	
Fault			
Flat battery		Off	
Silence the signal	Press and release button	Off	
Dirty smoke chamber		Fast flashing (0.5 sec.)	
Silence the signal	Press and release button	1 x flashing every 8 sec.	
Silence (2nd time)	Press and release button within 4 min.	1 x flashing every 8 sec.	
Silence (3rd time)	Press and release button within 4 min.	2 x flashing every 8 sec.	
Defective smoke chamber		Off	
Silence the signal	Press and release button	1 x flashing every 8 sec.	

* Note: We recommend vacuuming the device carefully using a vacuum cleaner and then waiting for five minutes before testing the device again using the test button. If there are repeated false alarms, the device must be replaced.

	Yellow LED	Acoustic signal	Replace alarm
	1 x flashing	Off	
	Off	Off	
	Off	Gets louder until full volume is reached	If it does not work
	Off	Full volume	
	Off	Off (for 10 min.)	If it does not work
	Off	Full volume	
	1 x flashing every 32 sec.	1 x beeping simultaneously	Yes
	Off for 12 hours	Off for 12 hours	Yes
	Off	Full volume	See below*
	Off	Off (for 10 min.)	
	Off	Off (for another 10 min.)	Yes
	Off	2 x fast beeping every 10 min. for 8 hrs.	Yes
	2 x flashing every 32 sec.	2 x beeping simultaneously	Yes
	Off	Off for 12 hours	Yes

6.3 Diagnosis for i series

During the annual maintenance and service check, you can use the i series' diagnosis mode to find out whether alarms have been set off, identify if the device is faulty or predict fault conditions that are likely to arise before the next annual service. Diagnosis modes are an extra feature and are only available for models in the i series.

6.3.1 Predicting faults

By pressing and holding down the test button, you can find out whether the battery is likely to go flat before the next annual service or whether the smoke chamber might soon become contaminated. If there is a potential fault due to a low battery, the yellow LED flashes quickly and the warning sound is emitted, slowly rising to full volume. If there is a potential fault due to contamination in the smoke chamber, the yellow and red LEDs flash alternately and the warning sound is emitted, slowly rising to full volume. To avoid having to take additional action before the next annual service, we recommend replacing the alarm.

6.3.2 Alarm memory function

The red LED flashes twice every 16 seconds if the alarm has gone off in the last 24 hours. If the red LED flashes every 0.5 seconds and the buzzer “chirps” quickly when you press and hold the test button, it means that the alarm has gone off more than 24 hours ago.

6.3.3 Identifying faulty devices

To identify why an alarm is beeping, press and hold down the test button. A yellow LED that is flashing quickly indicates there is a fault in the smoke chamber. If the battery power is too low, the yellow LED flashes quickly and the alarm sounds, slowly rising to full volume. In both cases, the alarm should be replaced.

6.3.4 AudioLINK

AudioLINK is an extra function in the i series which makes it possible to read alarm information using a smartphone (max. 100 times per year). This function can only be used by technicians. Visit www.ei-audiolink.de for more information

Diagnosis	Action	Red LED	
Predicting faults			
Low battery	Press and hold down button	Off	
Dirty smoke chamber	Press and hold down button	Fast flashing (0.5 sec.) alternating with yellow LED	
Test for end of service life	Press and hold down button	Fast flashing (0.5 sec.) alternating with yellow LED	
Alarm memory			
24-hour memory		2 x flashing every 16 sec.	
Long-term memory	Press and hold down button	Fast flashing (0.5 sec.)	
Identify beeping alarms			
Flat battery	Press and hold down button	Off	
Fault in smoke chamber	Press and hold down button	Off	

* Note: We recommend vacuuming the device carefully using a vacuum cleaner and then waiting for five minutes before testing the device again using the test button. If there are repeated false alarms, the device must be replaced.

	Yellow LED	Acoustic signal	Replace alarm
	Fast flashing (0.5 sec.)	Gets louder until full volume is reached	Recommended
	Fast flashing (0.5 sec.) alternating with red LED	Gets louder until full volume is reached	See below*
	Fast flashing (0.5 sec.) alternating with red LED	Off	Yes
	Off	Off	
	Off	Fast “chirping”	
	Fast flashing (0.5 sec.)	Gets louder until full volume is reached	Yes
	Fast flashing (0.5 sec.)	Off	Yes

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Troubleshooting

The alarm goes off for no obvious reason

- Look for steam, cooking fumes, etc. which may be coming from the kitchen or bathroom. Paints and other vapours can also trigger false alarms.
- Check for any possible contamination from cobwebs or dust. If necessary, clean the alarm as described in section 5.4.
- Press the test/silencer button on the smoke alarm to stop the alarm (the red LED on the alarm flashes quickly) – this will silence the smoke alarm for 10 minutes (and all other alarms that are interlinked in the system).
- Smoke alarms with radio modules beep for two seconds every four hours to indicate that the battery of one device in the system is going flat. Check all alarms as described in section 5.3.
- Use house coding for radio alarms – refer to your radio module's operating instructions. If the alarms are using the default factory settings, they may be triggered by neighbouring alarms.

The alarm does not emit a warning sound when the test button is pressed

- Check the age of the alarm – see the "Replacement Date" label on the side of the device.
- Ensure that the alarm is fully turned onto the mounting plate, i.e. that the battery is connected. Note: If the smoke alarm still does not emit a warning sound, it must be replaced as soon as possible.

8

Fire safety information

When devices are used for fire prevention purposes, basic safety measures should always be taken, including those listed below. Please read all instructions carefully:

- Test your emergency escape plans regularly, so that everyone in the house knows what to do if the alarm goes off.
- Use the alarm's test button to familiarise your family with the sound of the alarm. Carry out a drill regularly with all members of your family. Draw a floor plan indicating at least two escape routes for each room. Children tend to hide when they do not know what to do. Show your children how to get out, open windows and use fire escapes without help from an adult. Make sure your children know what to do if the alarm goes off.
- The battery life may be reduced by long periods of high temperatures or temperatures below freezing, high humidity or a large number of false alarms.
- False alarms can be switched off quickly by fanning air towards the device using a newspaper or the like in order to remove the smoke, or by pressing the test/silencer button.
- Do not attempt to remove or recharge the battery, and do not burn it as it may explode.
- Do not paint the alarm, and ensure you remove cobwebs and accumulations of dust and grease so that the alarm's sensitivity to smoke is not impaired.

- Do not attempt to repair damage to the alarm or malfunctions yourself. Return the device (see section 9).
- This device is intended SOLELY for use in domestic buildings.
- It is not portable. It must be installed as specified in these instructions.
- Smoke alarms do not replace insurance. The supplier or manufacturer is not an insurance company.

Fire safety information

- Store petrol and other flammable materials in suitable containers.
- Dispose of oily or flammable cloths carefully.
- Always use a metal guard in front of an open fire and have chimneys cleaned regularly.
- Replace old or damaged sockets, switches and cables as well as cracked or frayed electric cables and plugs.
- Avoid overloading electric circuits.
- Keep matches out of the reach of children.
- Do not smoke in bed. Always check whether there are any glowing cigarettes or ashes under cushions in the rooms where someone has been smoking. Have your central heating system serviced regularly.

- Make sure that all electrical equipment and tools have a recognised approval mark on them.
- This device cannot offer unlimited protection; in particular, it cannot protect against the most common causes of death by fire, such as smoking in bed, unattended candles, etc.

Planning your escape route if the alarm goes off:

1. Check the doors to rooms for heat or smoke. Do not open doors that feel hot. Use another escape route. When you leave, close all doors behind you.
2. If the smoke is thick, stay close to the floor and crawl out. Take short breaths (if possible through a damp towel) or hold your breath. More people die from smoke inhalation than from flames.
3. Leave the building as quickly as possible. Do not stop to gather belongings. Fix a meeting point outside the building beforehand for all family members. Check whether everyone is there.
4. Call the fire service from a neighbour's home or your mobile phone. Remember to give your name and address, including the floor you live on.
5. NEVER go back into a burning building.

9

Customer service and warranty

9.1 Customer service

If your alarm is not working and you have read the “Installation”, “Testing, maintenance and readiness for use” and “Troubleshooting” sections, please contact customer service or your retailer. If the device needs to be returned for repair or a replacement, remove it from the mounting plate by twisting it anti-clockwise and put it in a padded box. Send the device back to the retailer you bought it from. Describe the fault and enclose proof of purchase.

9.2 Warranty

Ei Electronics warrants that this alarm will be free from defects in materials or workmanship for five years from the date of purchase. This warranty only applies under normal conditions of use and maintenance and does not cover damage resulting from accidents, negligence, misuse, unauthorised disassembly or contamination of any kind. This warranty does not cover any accidental damage or consequential damages. If this alarm is defective within the warranty period, it must be returned to your retailer with proof of purchase, carefully packaged and with a clear description of the problem. The defective alarm will then be repaired or replaced at our discretion.

Do not damage the alarm or attempt to open it. This will invalidate the warranty. More importantly, it may put you at risk of fire. This warranty does not affect your statutory consumer rights.

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.

CE

0786-CPR-21052

Ei Electronics, Shannon, Co. Clare, Ireland

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DoP no 13-0002

DIN EN14604:2009

Optical smoke alarm:
Ei650, Ei650C, Ei650W, Ei650RF, Ei650i, Ei650iC, Ei650iW, Ei650iRF

Fire protection

Nominal activation conditions/sensitivity, response delay (response time) and performance parameters under fire conditions	**Pass**	Vibration resistance	**Pass**
Operational reliability	**Pass**	Humidity resistance	**Pass**
Tolerance to supply voltage	**Pass**	Corrosion resistance	**Pass**
Response delay and temperature resistance	**Pass**	Electrical stability	**Pass**

The Declaration of Conformity, number 13-0002, can be viewed here: www.eielectronics.com/compliance

The smoke alarms are tested and approved by the VdS certification authority in accordance with standard EN14604:2009. They also meet additional requirements under VdS 3131 (vfdb 14-01).
Visit http://www.eielectronics.de/normen for more information

VdS

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fire + gas detection

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Your notes

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