English

Installation and operating instructions

Smoke alarm EASY PROTECT Radio

1. Intended usage and protection goal

The smoke alarm EASY PROTECT Radio is used for fire protection in accordance with DIN EN 14604. In particular when residents are sleeping and their sense of smell is inactive, the generation of smoke should be detected at an early stage and warned acoustically and visually of the impending danger. The early detection of fire smoke is important, as the time factor can be decisive in such a situation in order to primarily take measures for self-rescue.

2. Product variants

ZENNER offers the EASY PROTECT radio in two radio versions:

- wireless M-Bus
- LoRa

In addition to the standard functions, the LoRa variant offers the user the comfort function that parallel to the alarm signal a radio telegram is possible.

However, the device does not meet the additional requirements that are required for use in a fire alarm system.

3. General information

3.1. Conduct in the event of an alarm

The EASY PROTECT Radio works using the photo-electric principle and is supplied by a built-in 3V battery. It serves to recognise and/or signal smoke in order to warn people acoustically or visually in their private residences. It must therefore be ensure that the smoke alarm is used in the **required quantity** This is the only way to achieve the greatest possible safety level. **For your own safety nothing should be applied over a smoke alarm and it may not be wallpapered or painted over. A correct mounting location must also be ensured**.

Each resident should be familiar with the warning signal from the smoke alarm so that the warning signal is recognised as such if it sounds. A prepared and practised escape route can save lives if a fire breaks out. Discuss the joint escape route with the other residents and practise the route together. Escape routes must be kept clear. For this reason you should ensure that these are not blocked at any time in a way that would prevent you from leaving the building quickly. In an emergency you must test every door with your hands first before opening it. If the door is hot to the touch there may be a fire behind it. Leave the door closed and look for another escape route. If the door is opened this would supply more air to the fire and could kindle the fire further. Do not lose any time collecting personal property. The property can be replaced, your life cannot! Inform all residents and leave the building as quickly as possible

Warning: The device must be attached securely to the ceiling or, in special cases, to the wall in accordance with the mounting instructions. Always follow the advice in these operating instructions in order to be above to ensure orderly operation.

3.2. Operation in accordance with the photo-electric scattered light principle

Smoke particles enter the measurement chamber and scatter the light from an infrared LED. The scattered light is measured by a photo detector and if a limit value is exceeded the smoke alarm is activated. At the same time a further, integrated temperature sensor tests for temperature changes and, depending on these levels, makes slight adjustments to trigger level for the smoke alarm. The alarm is signalled with the built-in sound generator and a flashing red warning light. The device is battery-operated with an integral long-life battery. Thus the battery does not need changing during the operating period.

4. Product characteristics

4.1. Service elements of the EASY PROTECT Radio

Test button

- Execution of regular tests
- Muting of the acoustic alarm signal
- Acknowledgement of error messages

LED red

- Signals functional readiness
- Signals alarm
- Signals error

LED yellow

- Signals error

Sound generator

- Alarm signal
- Error signals

Service interface

- Device memory can only be read by the service department

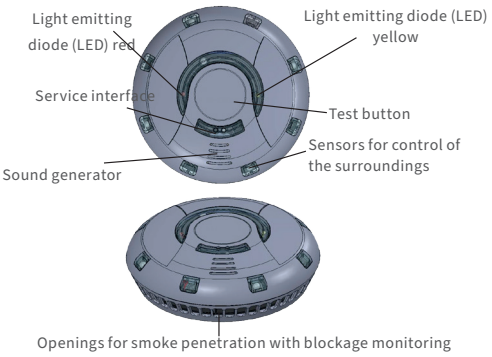


Fig. 1: Smoke alarm EASY PROTECT Radio

Sensors for optical control of the surroundings

- Regular, automatic testing of whether certain obstacles are in place within a radius of 0.5 m of the alarm that could prevent smoke penetration

Monitoring of blockages to the openings where the smoke enters the alarm

- Regular, automatic testing of whether the smoke can penetrate the alarm through the protective screen without obstruction

Installed radio mudule

- Built-in radio module for use of remote inspection by relevant service companies

4.2. Characteristics of EASY PROTECT Radio

- Battery-operated smoke alarm in accordance with EN 14604, with an additional temperature sensor.
- Use of an integral 10-year lithium battery that removes the need for battery exchange during the usage period.
- LED display of function and errors
- Periodical function testing of the smoke alarm
- Smoke alarm locked to the base plate
- Automatic activation of the dismantling protection during assembly
- Reduction of LED brightness at night
- Contamination compensation, re-adjustment of natural contamination in order to extend the lifespan of the smoke alarm
- Suitable for assembly with dowels and screws. Alternative use of the adhesive pad approved for this type of smoke alarm.
- Muting of false alarms
- Large test button for the activation of the functional tests and muting
- Integrated device memory with the option of on-site reading

4.3. Functions of the EASY PROTECT Radio in brief:

Activation of the smoke alarm	The smoke alarm is activated when it is place on and turned into the mounting plate
Operational indicators	The smoke alarm can display its functionality optically using the LEDs and also by sound generation.
Night-time reduction	Reduction of the brightness of the optical displays when the surroundings are dark. Acoustic error signals by means of the sound generator are only given with a delay of a maximum of 24 hours if the error first occurs when the surroundings are dark (night suppression).
Muting	The smoke alarm can be set to 'mute' easily for approx. 10 minutes by pressing the test button. If the alarm is muted following a false alarm the reset will occur after 10 minutes already. Then normal operation is stored.
Self-check	Test function by briefly activating the test button. Status transfer using short sound signals and the LED display.
Optical control of the surroundings	Regular, automatic testing of whether certain obstacles are in place within a radius of 0.5 m of the alarm that could prevent smoke penetration.
Monitoring of blockages to the openings where the smoke enters the alarm	Regular, automatic testing of whether the smoke can penetrate the alarm through the protective screen without obstruction
Alarm sound	If an alarm is triggered then you will be informed with short signals at intervals of approx. 1s and by the flashing of the red LED at intervals of approx. 1s

5. Notes on correct assembly

Assembly locations for smoke alarms are regulated in a binding manner in the application standard DIN 14676. Therefore smoke alarms may not be removed from their original assembly location and mounted at another location. Smoke alarms are designed to recognise beginning fires through the smoke emission and to warn you of the imminent danger in good time – particularly at night, when you are sleeping and your sense of smell is not active.

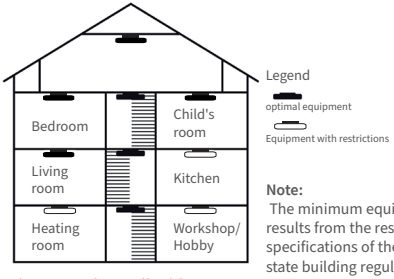
5.1. Unsuitable assembly locations

- Smoke alarms should not be installed in kitchens or bathrooms. Exceptions are e.g. Eat-in kitchens, kitchens with open access to living rooms and kitchens that serve as escape routes. The equipment of such areas is to be done acc. to DIN 14676.
- Smoke alarms should not be installed in bathrooms.
- Places outside the temperature range of 0 °C to +55 °C
- Not in rooms with a height of over 6 m
- Not in the immediate vicinity of air-conditioning units, ventilation shafts or fans as there is a risk that the smoke from the fire will not reach the alarm in time.
- Observe the required minimum distance of 70 cm to electronic ballast units, low voltage transformers, fluorescent and energy-saving bulbs.

5.2. Assembly location and planning notes

The relevant requirements in the regional building regulations and in DIN 14676 must be followed. The local regulations must be taken into account. Optimal equipment is recommended.

Mount at least one smoke alarm in each bedroom and children's bedroom and in corridors. Please note that living rooms are often also used as bedrooms. Some federal states also require mounting in rooms that serve as escape routes. The smoke alarms must be mounted in rooms in such a way that smoke from fires can reach the smoke alarms unhindered. This is the only way to ensure early detection.



Note:
The minimum equipment results from the respective specifications of the federal state building regulations.

Fig.2: Mounting: wall, with screws

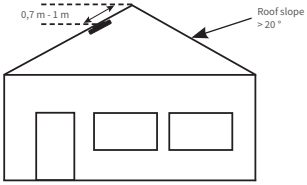


Fig. 3: Example of mounting a ceiling inclination> 20 °

The smoke alarm monitors an area of 60 m² at a maximum height of 6 m. It must be installed on the ceiling in the middle of the room. If the room area > 60 m² then one more smoke alarm must be fitted in the relevant area for each 60 m². Smoke alarms always need to be mounted on the ceiling, preferable in the middle of the room but always at least 0.7 m from the wall or a partition or pieces of furniture. These furnishings also include switched-mode power sources such energy saving lamps, transformers etc. The smoke alarm must be mounted in the centre of rooms and corridors with a width of ≤ 1.4 m. The smoke alarms can be mounted on walls in corridors with an area of under ≤ 6 m² or in kitchens that serve as an escape route. Assembly must be undertaken depending on space conditions at 0.3 m to 0.5 m below the ceiling in such a way that fast activation is ensured in the event of fire. The following is valid where spaces are divided by beams that extend up to the ceiling or by partitions in ceiling areas:

a) For partition heights ≤ 0.2 m the partition need not be taken into account and the alarm/s may also be installed on this partition itself/these partitions themselves (see image 1a).
b) For partition heights > 0.2 m one smoke alarm must be installed in each ceiling field if the ceiling fields thus formed have an area of > 36 m² (see image 1 b).
c) If there are partitions with a height > 0.2 m and the area of the ceiling fields is ≤ 36 m², then the individual ceiling fields are not taken into account. A smoke alarm must be located in a ceiling field or on a partition, preferably in the centre of the room (see image 1 c).

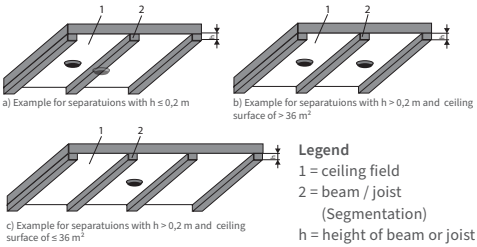


Fig.4: Examples of segmentations in ceiling fields

In rooms with sloping ceilings > 20° to the horizontal heat cushions can form at the top of the ceiling and this can hinder smoke from reaching the smoke alarm. Thus smoke alarms in this kind of room must be mounted at least 0.7 m and no more than 1 m from the top of the ceiling. In rooms with some sections of sloped ceiling and a horizontal ceiling width ≤ 1 m the smoke alarms must be fitted as described above. If the horizontal ceiling is > 1 m wide then the smoke alarm must be mounted in the centre of the horizontal ceiling section. If the height of a room is divided by a gallery or platform then a smoke alarm is required below this if the area is more than 16 m² and the length and width are each more than 2 m. Please note: Smoke alarms may not be mounted outdoors.

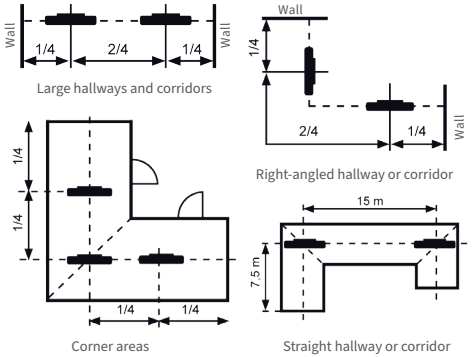


Fig. 5: Arrangement of smoke alarms in hallways, corridors and special room shapes

6. Installation and initial operation

The smoke alarm EASY PROTECT Radio was designed for use in residential buildings, apartments and rooms with a residential character and for recreational vehicles that serve as accommodation. Use in spaces with areas where there are high levels of dust, humidity and temperature can lead to false alarms and a reduced lifespan.

The smoke alarm must be mounted using the included attachment materials. However if different dowels and screws are used then it must be ensured that the screw heads are completely countersunk into the guides on the base plate. The smoke alarm can only be placed on the assembly plate in a fixed position. Any wishes for the direction of the device must be taken into account while attaching the assembly plate. Position the smoke alarm is such a way that the connecting piece that stands out from the assembly plate enters the slit opening on the bottom of the smoke alarm. Turn the smoke alarm into the assembly plate in a clockwise direction while applying light pressure until it locks into place. The dismantling lock is automatically activated at the same time. Make sure that the smoke alarm is correctly fixed in place. The alarm is activated automatically through the attachment to the assembly plate (red LED lights briefly every 46 seconds).
A function test is essential after the initial assembly. Activate the test button to do this. The smoke alarm is now ready for operation. Note: The smoke alarm may only be installed in connection with the intended assembly plate. The smoke alarm is deactivated when removed from the assembly plate. The dismantling lock must be unlocked to remove the smoke alarm device from the mounting plate. Please ensure that the device has adapted to the climatic conditions at the place of installation before initial operation. The device should be stored for at least 30 minutes in the temperature conditions of the installation location, particularly if there are large differences in temperature between the storage location and the transport and installation locations, in order to avoid false alarms from thawing effects.

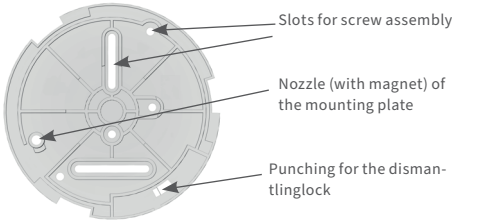


Fig. 6: Mounting plate

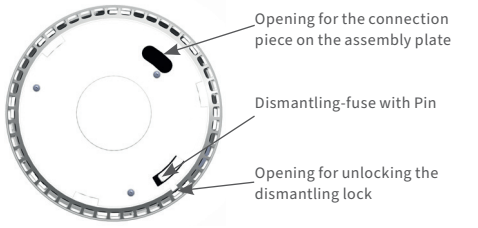


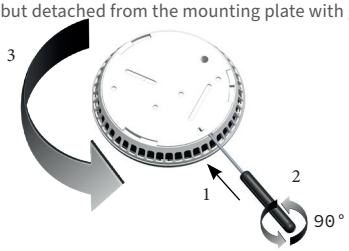
Fig. 7: Bottom of smoke alarm device

7. Unlocking the dismantling lock

By placing the detector on the mounting plate, the dismantling lock is activated. This can prevent manipulation and theft.
A slotted screwdriver is required to unlock the dismantling lock (slot width 3mm).



To unlock the dismantling lock, insert the screwdriver flat into the opening provided as shown in the following sketch. Place the screwdriver between the dismantling locking tab and the mounting plate. The dismantling lock can be unlocked by turning the screwdriver by 90 ° and the detector can be removed from the mounting plate by turning it counterclockwise while applying slight pressure.
If the smoke alarm device is not dismantled as described, but detached from the mounting plate with great effort, de-

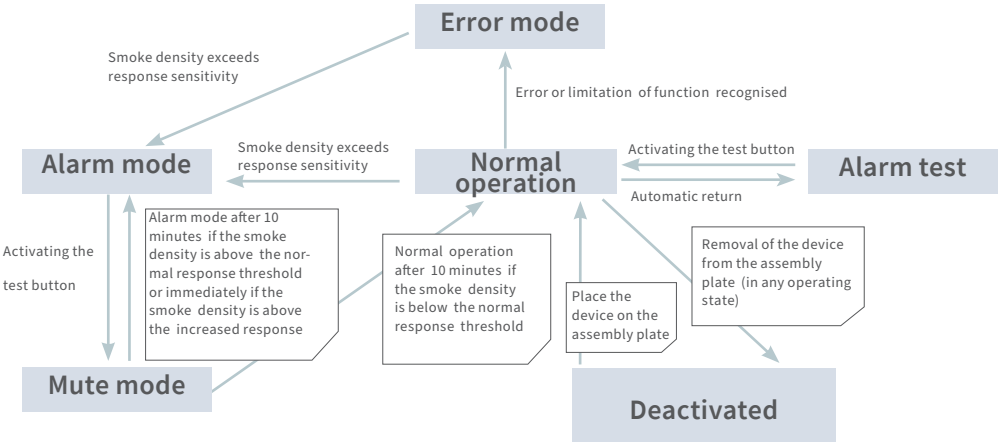


stroying the pin, the dismantle protection is no more given and the detector must be replaced.

8. Operating status display

Operating mode	Signal pattern		
	Sound generator	LED red	LED yellow
Normal operation		Brief illumination every 46s	-
Alarm test	Brief sound signal every 46s 2 Brief acoustic signals 2 times in a row	Lights briefly 2 times in a row, at the same time as the alarm sound	
Alarm mode	Short sound signals in a rhythm of approx. 1s	Lights in a rhythm of approx. 1s, at the same time as the acoustic signals	-
Mute mode		Lights in a rhythm of approx. 1s	
Error mode	**See description under error signals**		
Deactivated	Off	Off	Off

When in normal operation the device reduces the brightness of the lights on the optical signals when the surroundings are dark (night reduction).



9. Muting

In the event of an undesired alarm caused by kitchen vapours or steam the smoke alarm can be easily 'muted' for approximately 10 minutes by pressing the test button. The red LED will flash approx. every second during this phase. It is easy to mute the alarm, e.g. using a broom handle, and this reduces the response sensitivity of the smoke alarm. However the smoke alarm is still active! If the alarm is muted following a false alarm the reset will occur after 10 minutes already. Then normal operation is stored.

10. Error signals

A smoke alarm will sound if the smoke or dust particles enter the smoke chamber in a certain concentration. This can also occur during renovation work if drilling, painting or sanding create fine dust and this enters the measurement chamber. Therefore please ensure that that the smoke alarm is removed during renovation work. Painted smoke alarms lose their functionality. False alarms can also be triggered if fumes (e.g. from roasting) or steam from the kitchen or bathroom enters other rooms that are fitted with smoke alarms. This can be prevented if e.g. the kitchen door is kept closed during cooking. If an alarm is still triggered then the smoke alarm can be muted using the test button. It is important to air your home well after pressing the test button.
Acoustic error signals by means of the sound generator are only given with a delay of a maximum of 24 hours if the error first occurs when the surroundings are dark (night suppression). The device also reduces the brightness of the optical error signals when the surroundings are dark (night reduction).

11. Carrying out a function test

Test function by briefly activating the test button. Recommended on a weekly basis. The smoke alarm is in order if 2 short acoustic signals are given in a row and the red LED illuminates in the same rhythm. In this case the device must be replaced. The functionality of the installed smoke alarm must be tested regularly and assured though repair measures if necessary. The smoke alarm must be the subject of an inspection, maintenance and functional testing of the warning signals at least every 12 months with a tolerance range of no more than ± 3 months.

12. Maintenance and care

Smoke alarms may not come into contact with aerosols, cleaning materials or water. Remove exterior contamination with a slightly damp cloth. Dust and fluff are best removed with an antistatic duster.
Attention! Batteries (battery set or inserted batteries) many not be subjected to excessive heat such as sunshine, fire or similar. Do not paint over or cover smoke alarms.

Error type	Signal pattern			Necessary measure
	Sound generator	LED red	LED yellow	
Battery error	Brief illumination every 46 s[1]	Brief illumination every 46 s[1]		Replace device immediately
Contamination of measurement chamber	Brief illumination every 46 s[1]	Brief illumination every 46 s[1]		Call customer service
Test button failure		Brief illumination every 46 s	Brief illumination every 46 s, at the same time as the red LED	Call customer service
Sound generator defective		2 brieft illumination every 20 s[1]	2 brief illumination every 20 s, at the same time as the red LED[1]	Call customer service
Smoke penetration openings blocked		2 brieft illumination every 20 s[1]	brief illumination every 20 s, at the same time as the red LED[1]	Inspect the device, remove the blockage from the smoke penetration openings

[1] Switch the error signal off for approx. 65 hours by activating the test button

13. Exchange

The smoke alarm must be exchanged at the latest after 10 years of operation.

14. Technical data smoke alarm

Dimensions (diameter x height)	130 mm x 40 mm
Weight (with assembly plate)	200 g
Mounting types	Using screws or adhesive attachment with adhesive pad type ASTOdur 21601-03, adhesive attachment with the named adhesive pad in conformity with requirements in accordance with DIN EN 14604:2005 Using screws or adhesive attachment with adhesive pad type ASTOdur 21601-03, adhesive attachment with the named adhesive pad in conformity with requirements in accordance with DIN EN 14604:2005
Assembly types	Ceiling mounting or wall mounting
Protection class in accordance with DIN 60529	IP20
Storage temperature range	-10 °C bis +60 °C
Operating temperature range	0 °C bis +55 °C
Maximum humidity	Max. 90 % non-condensing
Power supply	3V lithium battery, integral and non replaceable
Operating duration	at least 10 years when used as intended
Acoustic warning signal in the event of an alarm	at least 85 dB(A) at a distance of 3 m
Acoustic signal in the event of an error or test	approx. 75 dB(A) at a distance of 3 m
Conformity in accordance with DIN EN 14604:2005	1772-CPR-170691
Acceptance criteria	EN 14604:2005 / AC:2008

15. Technical data radio interface

	wM-Bus	LoRaWAN ®, bidirectional, class A
Transmission modes	wireless m-bus, unidiectional, Mode C1	LoRaWAN ®, bidirectional, class A
Frequency	868 MHz	868 MHz
Encryption	AES-128	AES-128
Transmission interval	180s	daily
max. transmission power	25 mW	25 mW

16. Disposal of batteries and electrical devices

Attention: This device contains a non-removable and non-rechargeable lithium battery. Batteries contain substances, which could harm the environment and might endanger human health if not disposed of properly. To reduce the disposal quantity so as unavoidable pollutants from electrical and electronic equipment in waste, old equipment should be reused prior or materials recycled or reused as another form. This is only possible if old equipment, which contains batteries or other accessories are disposed. Therefore please contact the department of your local authority which is responsible for waste disposal. Alternatively a waste disposal via ZENNER is possible. Insofar as no other contractual arrangements have been made regarding this matter, the used equipment and accessories can alternatively be dropped off free of charge at our production site in Mulda (ZENNER International GmbH & Co. KG, Talstr. 2, 09619 Mulda, Germany). ZENNER will always ensure correct disposal.
Attention: Do not dispose of the devices with domestic waste.
In this way, you will help to protect natural resources and to promote the sustainable reuse of material resources.



Please contact us at info@zenner.com if you have any questions.

Attention! In the event of fire call the fire brigade immediately.

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