⊛ RADEMACHER

DuoFern Smoke Alarm Radio Module 9481
for ESYLUX PROTECTOR K 9 V

Operating and Installation Manual

Item no.: 3200 16 64

VBD 613-02 (04.23)

1. These instructions…

◆ …supplement the separate operating manual of the corresponding Smoke Alarm ESYLUX PROTECTOR K9V.
◆ …describes the commissioning and operation of the **DuoFern Smoke Alarm Radio Module** (in the following referred to as **DuoFern Radio Module**).
◆ Before you begin, please read these instructions through completely and follow all the safety instructions.
◆ Please store these instructions in a safe place and pass them on to any future owners.
◆ Damages resulting from non-compliance with these instructions and safety instructions will void the guarantee. We assume no liability for any consequential damage.

2. Key to symbols

⚠ **Danger area,**
this concerns your safety.

Please pay particular attention and carefully follow all instructions marked with this symbol.

NOTE
This is to draw your attention to information that is important for trouble-free operation.

Please read the operating instructions for the external devices specified at this point, (e.g. a smoke alarm).

3. Safety information

⚠ **The use of defective equipment can lead to personal injury and damage to property.**

Never use defective or damaged equipment. Please contact our Customer Service department in this event.

4. Proper use

Only use the DuoFern Radio Module in connection with:

◆ the Smoke Alarm ESYLUX PROTECTOR K 9 V
◆ a SmartHome Box in the DuoFern network
◆ DuoFern actuators

Operating conditions:

◆ Only use the DuoFern Radio Module in:
  – private apartments or in rooms with apartment-like use
  – dry rooms
◆ Avoid installation in rooms with large temperature fluctuations.
◆ The DuoFern Radio Module is battery-operated; no mains connection is required.
◆ The installation and operation of the DuoFern radio system and its components (e.g. DuoFern Radio Module) is only permitted for systems and devices where a malfunction in the transmitter or receiver would not cause a danger to personnel or property or where this risk is already covered by other safety equipment.

Important information on the radio technology

◆ Radio systems which transmit on the same frequency (see technical specifications) can cause interference. Avoid installation near such radio systems and near large electrical appliances.
◆ The radio range and susceptibility to interference can also be influenced by:
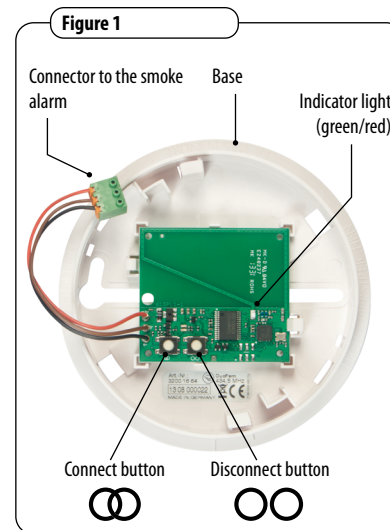 – insulation foil
  – aluminium foil
  – metallic surfaces

5. Improper use

◆ Using the DuoFern Radio Module for purposes other than previously mentioned is impermissible and is regarded as improper use.
◆ Do not install the DuoFern Radio Module outside.

5. Improper use

◆ **Never** use the DuoFern radio system and its components for the remote control of appliances and systems with increased safety-relevant requirements or where there is an accident risk. This shall require additional safety equipment. Observe the respective statutory regulations for the installation of such systems.

6. General view

Figure 1

Connector to the smoke alarm   Base
                               Indicator light (green/red)

Connect button   Disconnect button

7. Functional description

The battery-operated DuoFern Radio Module serves to integrate smoke alarms of the ESYLUX PROTECTOR K 9 V series into the DuoFern network. The power supply for the DuoFern Radio Module shall be effected via the smoke alarm battery.

It reacts to the alarm signal of the smoke alarm and transmits these to a registered SmartHome Box or DuoFern actuator.

Alarm signals to a SmartHome Box:

◆ "**Start smoke**" as soon as smoke is detected
◆ "**End smoke**" as soon as smoke is no longer detected

Reporting an alarm signal to the SmartHome Box serves as an additional signal to trigger scenes.

Alarm signal to a DuoFern actuator:

◆ "**Open**" as soon as smoke is detected
◆ "**Stop**" as soon as smoke is no longer detected

This way, escape routes can also open without a SmartHome Box or, e.g., a lamp or siren can be switched on via a socket actuator.

7. Functional description

Monitoring the battery charge
In addition, the DuoFern Radio Module transmits the battery's state of charge on a daily basis. This way, the battery condition can be easily monitored and an empty battery can be exchanged in time.

NOTE
The alarm signal is the only safety-related function of the smoke alarm and this is not influenced by the radio module.

The DuoFern Radio Module must be connected to the DuoFern network.

For the alarm signals to be received in the DuoFern network, the DuoFern Radio Module must be logged-on to a SmartHome Box or to a DuoFern actuator, see also Chapter 10.

Further information on the DuoFern system can be found at:
http://www.rademacher.de/duofern

8. Installation of the smoke alarm

Please consider the installation instructions as well as the recommended installation areas as in the enclosed operating manual of the ESYLUX PROTECTOR K 9 V Smoke Alarm.

The DuoFern Radio Module is mounted in the base of the smoke alarm.

8.1 Instructions on the correct assembly position for the DuoFern Radio Module

The radio range
The range of the DuoFern Radio Module inside a building is approx. 30 m. Through mains-operated actuators and sensors, the range in the DuoFern network is multiplied by means of routing.

An incorrect installation position may lead to interference with reception.

Therefore, **do not** install the DuoFern Radio Module near large electrical appliances or near metallic areas.

8.2 Insert the battery into the smoke alarm.

The power supply for the DuoFern Radio Module shall be effected via the smoke alarm battery.

Recommended battery type
An optimum battery life is only achieved by using a 9 V lithium monobloc battery. Alkaline monobloc batteries do not suffice, see also Chapter 13.

8.2 Insert the battery into the smoke alarm

1. **Connect the battery to the smoke alarm. In doing so, check for correct polarity.**
2. **Insert the batteries into the battery compartment of the smoke alarm and then close it.**

NOTE
The DuoFern Radio Module and the smoke alarm can only be put together with the battery inserted and connected, see also Chapter 11.

3. **If the battery is correctly connected, the indicator light (LED) of the smoke alarm will briefly light up every 45 seconds.**

To check this, the test button on the smoke alarm can be briefly pressed to carry out a function test, see also Chapter 12.

NOTE
During each self-test, the smoke alarm will sound a very loud alarm signal.

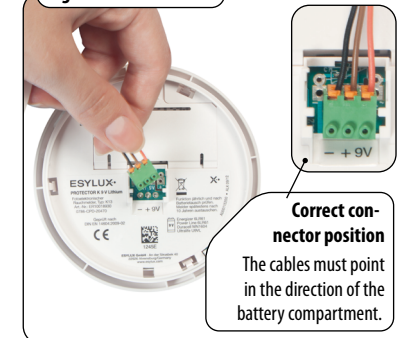## 9. Connect the DuoFern Radio Module to the smoke alarm

⚠ **The wrong connection may lead to malfunctions.**

◆ Therefore, pay attention to the correct polarity of the connection.
◆ The correct polarity, or respectively, connector position is printed on the smoke alarm, see Figure 2. / 2.1.

1. **Plug the three-phase terminal of the DuoFern Radio Module onto the plug contacts of the smoke alarm.**
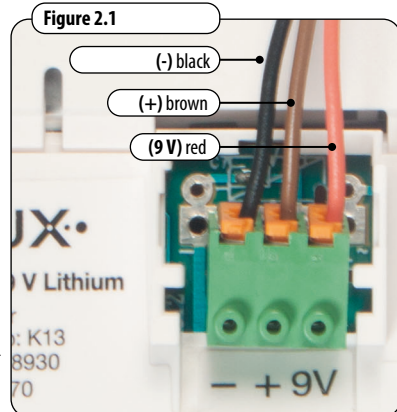

Figure 2

– + 9V

Correct connector position
The cables must point in the direction of the battery compartment.

Colour coding of the connector, see next page.

9. Connect the DuoFern Radio Module to the smoke alarm

Colour coding of the connector

Figure 2.1

(-) black
(+) brown
(9 V) red

10. Logging on and off the SmartHome Box or a DuoFern actuator

The log-on and log-off is effected by pressing the corresponding button, see Figure 1.

= connect button (log-on)

= disconnect button (log-off)

NOTE

◆ The log-on and log-off mode respectively remains active for approx. 120 seconds.

◆ Battery-operated DuoFern devices **cannot** be logged-on to the DuoFern Radio Module.

10.1 Login

1. Briefly press the connect button on the DuoFern Radio Module.

1.1. As soon as the connect mode is active, the indicator light of the DuoFern Radio Module will flash green.

2. Log the DuoFern Radio Module onto the SmartHome Box or onto the DuoFern actuator.

To do so, please refer to the respective operating manual.

3. If the login is successful, the indicator light will light up green continuously for 5 seconds.

10.2 Log off

1. Briefly press the disconnect button on the DuoFern Radio Module.

1.1. As soon as the disconnect mode is active, the indicator light of the DuoFern Radio Module will flash red.

2. Log the DuoFern Radio Module off the SmartHome Box or off the DuoFern actuator.

To do so, please refer to the respective operating manual.

3. If log off is successful, the indicator light will light up red continuously for 5 seconds.

10.3 Clear

This function logs off all of the logged-on DuoFern devices that are no longer reacting. This could be necessary with a faulty device, for instance, that can no longer be logged-off in a regular manner.

1. Press the "connect" button for approx. 4 seconds until the indicator light flashes red.

2. The DuoFern Radio Module transmits a control signal to all logged-on DuoFern devices.

Unavailable DuoFern devices are automatically logged-off.

3. Clearing is complete as soon as the indicator light lights up green for 5 seconds.

10.4 Deleting all settings (Reset)

1. Press and hold the disconnect button for approx. 4 seconds.

2. All settings and logged-on DuoFern devices will be deleted.

The DuoFern Radio Module will then be returned to the original supplied condition.

11. Putting the smoke alarm and the DuoFern Radio Module together

⚠ **Clamped connecting cables may lead to short-circuit and destroy the device.**

◆ The connecting cable of the DuoFern Radio Module must not be pinched/clamped during the installation.

◆ Ensure that the connecting cable sits in the housing.

NOTE
The smoke alarm has an **installation lock in the battery compartment**, which prevents it from being put together without the battery. The DuoFern Radio Module and the smoke alarm can only be put together with the battery inserted and connected, see Chapter 8.2 (item 2.).

1. Place the smoke alarm on the base and turn it in a clock-wise direction until it locks in place.
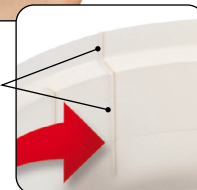
Figure 3

Figure 3.1

Both markings on the base and on the smoke alarm must be above one another.

12. Carry out a function test

The DuoFern Radio Module and the smoke alarm must be regularly checked and tested for correct functioning.

For this, please read the operating instructions of the ESYLUX PROTECTOR K 9 V Smoke Alarm.

1. **Press the test button on the smoke alarm:**

◆ A very loud alarm signal will sound from the smoke alarm.

◆ The DuoFern Radio Module transmits a **warning signal** to all logged-on DuoFern devices.

2. **Release the test button:**

◆ The alarm signal will switch off again.

◆ The DuoFern Radio Module transmits an **all-clear** to all logged-on DuoFern devices.

13. Changing the battery

If the battery is discharged, the SmartHome Box and the ESYLUX PROTECTOR K 9 V Smoke Alarm will indicate that a battery exchange is due. All settings remain unaltered when the battery is changed.

Recommended battery type, see chapter 15.

An optimum battery life is only achieved by using a 9 V lithium monobloc battery. Alkaline monobloc batteries do not suffice.

⚠ **Risk of fire or explosion**

◆ Replacement of a battery with an incorrect type that can defeat a safeguard Or Risk of fire or explosion if the battery is replaced by an incorrect type

◆ Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion;

◆ Leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas;

◆ A battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas.

1. Replace the battery with a new one of the same type.

When inserting the battery, pay attention to the correct polarity.

14. Simplified EU Declaration of Conformity

CE RADEMACHER Geräte-Elektronik GmbH hereby declares that the DuoFern Radio Module complies with the Directive **2014/53/EU (Radio Equipment Directive)**.

The full text of the declaration of conformity is available at the following website:

www.rademacher.de/ce

15. Technical Specifications

Battery type:	9 V lithium monobloc battery
Battery life:	approx. 8 years (recommended interval to change battery)
Transmission power:	10 mW
Range indoors:	approx. 30 m
Transmission frequency:	434.5 MHz
Max. number of DuoFern devices:	10
Permissible ambient temperature range:	- 5 °C to + 40°C
Dimensions:	
- Diameter	106 mm
- Height without smoke alarm	24 mm
- Height with smoke alarm	65 mm

Warranty conditions

Information on our warranty conditions is enclosed separately with this product.