

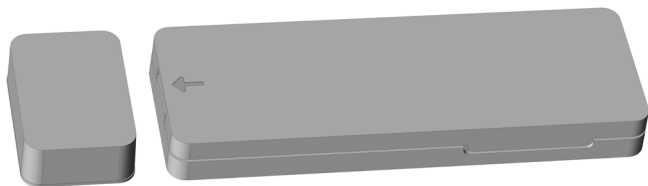


## **DuoFern Window/Door Contact**

Translation of the original Installation and Commissioning Manual

Item no. 3200 31 64

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<b>1. This manual.....</b>	<b>3</b>
<b>2. Hazard symbols .....</b>	<b>4</b>
2.1 Symbols and depictions used .....	4
2.2 Glossary - definition .....	4
<b>3. Safety instructions .....</b>	<b>5</b>
3.1 Intended use .....	5
<b>4. Included in delivery .....</b>	<b>6</b>
<b>5. General view / operating elements.....</b>	<b>7</b>
<b>6. Product description.....</b>	<b>8</b>
<b>7. Technical specifications .....</b>	<b>9</b>
<b>8. Inserting / changing the battery .....</b>	<b>10</b>
<b>9. Installation.....</b>	<b>14</b>
9.1 Installation instructions .....	14
9.2 Installation examples .....	16
9.3 Temporary installation.....	18
9.4 Teaching in the window or door positions .....	19
9.5 Check the taught-in positions .....	21
9.6 Final installation of the DuoFern Window/Door Contact.....	22
<b>10. DuoFern devices (logging on / logging off / clearing).....</b>	<b>23</b>
10.1 Logging on DuoFern devices.....	24
10.2 Logging off DuoFern devices.....	25
10.3 Clearing the DuoFern network.....	26
<b>11. Logging on to the SmarHome Box .....</b>	<b>27</b>
<b>12. Deleting all settings.....</b>	<b>28</b>
<b>13. Closing the housing cover.....</b>	<b>28</b>
<b>14. Cleaning / maintenance.....</b>	<b>29</b>
<b>15. Simplified EU declaration of conformity .....</b>	<b>29</b>
<b>16. Information about environmental protection .....</b>	<b>30</b>

...describes how to install and commission the DuoFern Window/Door Contact.

### How to use this manual

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- ◆ Before you begin, please read this manual through completely and follow all the safety instructions.
- ◆ Please also read the instruction manuals of the logged-on DuoFern devices.
- ◆ This manual is part of the product. Please store it in an easily accessible place.
- ◆ When passing the DuoFern Window/Door Contact on to a third party, this manual must be passed on as well.
- ◆ Damage resulting from non-compliance with these instructions and safety instructions will void the warranty. We assume no liability for any consequential damage.



## 2. Hazard symbols

EN



**Danger area / dangerous situation**



## 2.1 Symbols and depictions used

Depiction	Description
	Further useful information
	Please read the respective manual.



## 2.2 Glossary - definition

### DuoFern

- ◆ RADEMACHER radio system for controlling compatible products.

### SmartHome Box

- ◆ The SmartHome Box is a central controller unit for RADEMACHER radio products.



**The use of defective devices and improper use can lead to property damage.**

- ◆ Never use defective or damaged devices.
- ◆ Check the DuoFern Window/Door Contact for damage.
- ◆ Consult our customer service department in the event that you discover damage.

#### 3.1 Intended use

Use the DuoFern Window/Door Contact solely to monitor windows and doors.

##### Operating conditions

- ◆ The installation and operation of radio systems is only permitted for systems and devices where a malfunction in the transmitter or receiver would not cause a danger to persons or property or where this risk is already covered by other safety equipment.



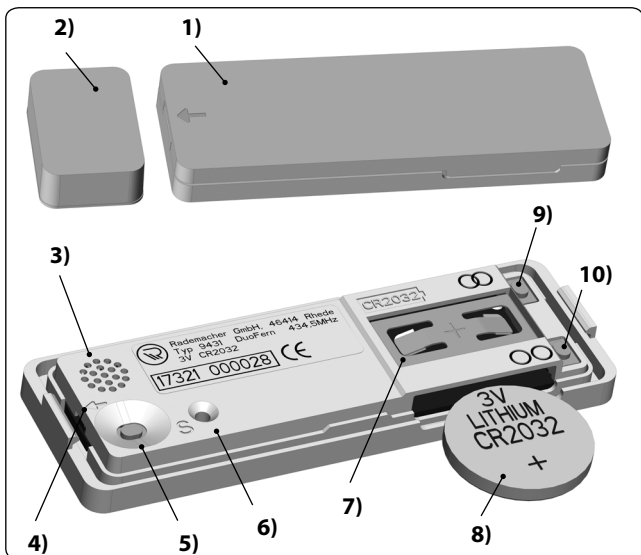
Other radio systems that transmit on the same frequency can cause transmission problems.

- 1 x Sensor part (housing incl. sensor and electronics)
- 1 x Cover for sensor part
- 1 x 3 V lithium battery, type CR2032
- 1 x Magnet
- 4 x Double-sided round adhesive pads for the temporary fixing of the sensor part and magnet
- 2 x Double-sided rectangular-shaped adhesive tape for the final installation
- 1 x Cleaning cloth
- 1 x Installation and commissioning manual

**After unpacking please check and compare...**

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... the contents of the package with those specified above.



- 1) Sensor part
- 2) Magnet
- 3) Signal transducer
- 4) Sensor
- 5) Set button (S)
- 6) Indicator light (multicoloured LED)
- 7) Battery compartment
- 8) Battery (3 V lithium, CR2032)
- 9) DuoFern log-on button
- 10) DuoFern log-off button

The DuoFern Window/Door Contact is designed to monitor window and door positions. It consists of a sensor part and a magnet.

The sensor uses the magnet to detect the respective window or door position:

For windows: **Open, closed and tilted**

For doors: **Open, closed**

The sensor part is mounted on / in the door or window frame and the magnet is mounted directly on the door or window.

### Teaching in the different positions

The individual window/door positions can be detected and stored using teach-in processes, see page 19.

### Integration into the DuoFern radio system

The DuoFern Window/Door Contact emits different control signals depending on the type of DuoFern device that is logged on.



You can obtain further information in the service centre on our website at “[www.rademacher.de](http://www.rademacher.de)”.

**General information**

Battery:	1 x 3 V (DC) lithium, type CR2032
Battery life:	approx. 3 years (depending on the ambient temperature, number of logged-on receivers and frequency of the status changes)
Permissible ambient temperature:	5 °C to 50 °C
Dimensions (L x W x D):	
Sensor part:	78 x 26 x 8.5 mm
Magnet:	17 x 26 x 8.5 mm

**DuoFern radio technology**

Transmission frequency:	434.5 MHz
Transmission power:	max. 10 mW
Radio range within a building:	approx. 20 m, depending on the building structure
Maximum number of DuoFern devices:	5



**This product contains a coin / button cell battery. If the coin / button cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.**

- ◆ Replacement of batteries shall not be done by children.
- ◆ Do not ingest battery ,Chemical Burn Hazard.
- ◆ Keep new and used batteries away from children. If the battery compartment does not close securely, stop using the product and keep it away from children. If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.



#### **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.



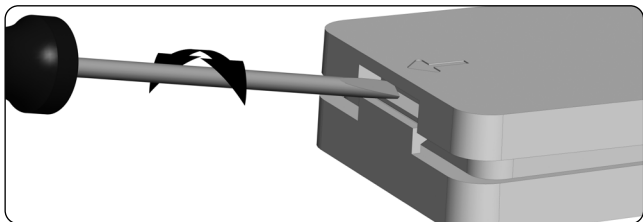
**The use of incorrect batteries can damage the DuoFern Window/Door Contact.**

- ◆ Only use type CR2032 batteries.
- ◆ Pay attention to the correct polarity when inserting the battery, see page 12.

### **Signals in the case of an empty battery**

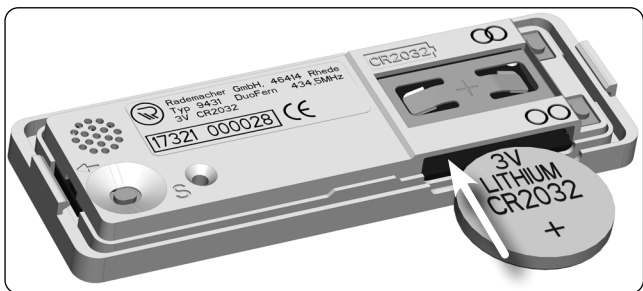
- ◆  1 x a short audible signal when opening/ tilting the window or when opening the door.  
A maximum of twice a day.
- ◆ In the SmartHome Box  
The charge level is transmitted once a day to the SmartHome Box and displayed there.

1. Carefully open the cover on both sides by gently turning the screwdriver.



2. Slide the battery provided into the battery compartment with the plus pole (+) pointing upwards.

A flat, non-metallic object can be used to slide the old battery out of the battery compartment when changing a battery. Metallic screwdrivers can damage the PCB.



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**LED status messages after inserting a battery:**

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LED lights up green for 1 sec.: Battery is full

LED lights up blue for 1 sec.: Battery is no longer completely full\*

LED lights up red for 1 sec.: Battery is nearly empty

LED does not light up: Battery is completely empty

\* *It may be that new batteries are also not fully charged.*

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- 3.** Continue with the installation if it is the initial installation  
**or**

Press the cover firmly onto the sensor part again after changing a battery.

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**Information about the battery life**

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The battery life can be reduced due to the following factors:

- ◆ Use at very low and high temperatures.
- ◆ Frequent status changes (e.g. opening / closing a door).
- ◆ Number of logged-on DuoFern devices.

**Recommendation:**

- ◆ **Do not** install the DuoFern Window/Door Contact in the window frame in unheated rooms, but on the inside of the window frame.

## 9.1 Installation instructions

### Temporary installation of the sensor part and magnet

We recommend that you initially fix the elements temporarily with the round adhesive pads in order to carry out the teach-in process and then a function test prior to the final installation.



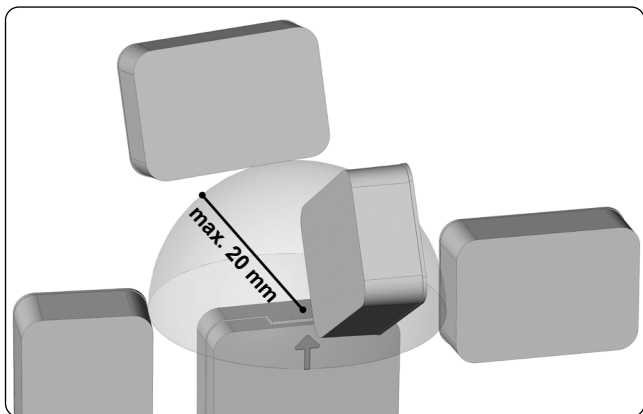
The DuoFern Window/Door Contact is not suitable for use in aluminium window frames.

However, if the installation is to take place, we recommend installing it **on the** window frame.



Ferrous material or another magnet close to the sensor and magnet affects the sensitivity and therefore reduces the maximum installation distance of 20 mm.

The distance between the sensor (arrow on the housing) and magnet must be a maximum of 20 mm in all directions. The direction from which the magnet is led to the sensor does not matter.



Check that the sensor part and magnet fit into the window frame. You can find the dimensions in the technical specifications on page 9. Alternatively, we recommend an installation on the window frame.

### As a window contact in the window frame

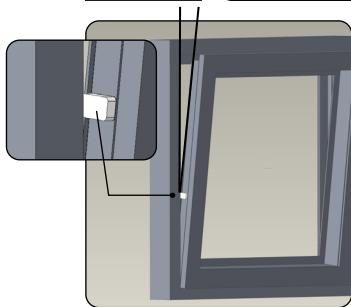
#### Recommendation to protect against condensation

Install the sensor part in the side jamb of the window frame and never on the bottom rail as water may accumulate there from time to time.

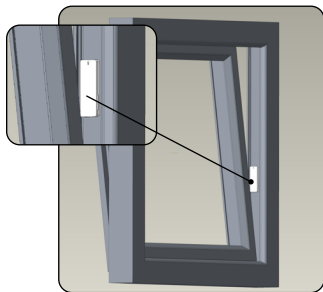
The ideal installation position for the magnet is at a distance of approx. 15 mm between the window frame and the tilted window.



Opening width of approx. 15 mm



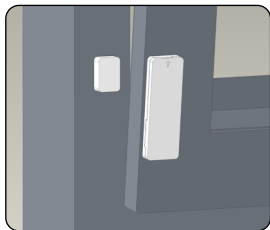
The magnet is attached to the handle side of the window sash.



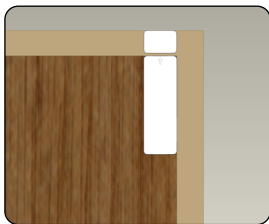
The sensor part is mounted on the fixed frame.

### As a window contact on the window frame

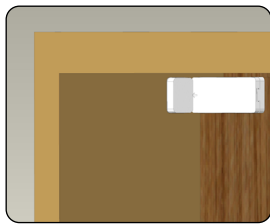
If an installation in the window frame is not possible.



### As a door contact on the door



### As a door contact in the frame





The installation of the magnet and sensor part may be different to the illustrations.



The radio range may be reduced if the sensor part is installed on metal.

1. Select the installation position based on the above-mentioned criteria and installation examples.

- 2.



Fix the sensor part and the magnet at the selected installation position with the round adhesive pads provided.



Use the round adhesive pads only to find the optimum installation position.

The DuoFern Window/Door Contact has three operating modes. The teach-in processes are carried out in the respective mode:

- ◆ Window mode (open / closed / tilted), LED flashes green
- ◆ Door mode (open / closed), LED flashes blue
- ◆ Inverted door mode (open = closed / closed = open), LED flashes red



Start each teach-in process with the window or door open. This is also required each time the operating mode is changed.

### Time limit for the teach-in process

The teach-in process is active for 60 seconds after activating a mode.

### Cancelling the teach-in process



You can cancel the teach-in process by pressing the set button.

### Pay attention to the acoustic feedback signal

An acoustic feedback signal is given during the teach-in process. If an acoustic feedback signal is not given, this is an indication that the distance between the magnet and sensor was too large or ferrous material or other magnets do not enable a reliable differentiation between the states.

1. Open the window or door.

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2. Activate the desired mode:



3 sec. = Window mode > LED flashes green

6 sec. = Door mode > LED flashes blue

9 sec. = Inverted door mode > LED flashes red

---



2 x

Then two short acoustic signals confirm that the first position is stored.

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3.a Close the window or door.



2 x

After approx. 3 seconds, two short acoustic signals confirm that this position is stored.

The following point 3.b is skipped in door mode!

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### **Additionally in window mode (green LED)**

3.b Tilt the window.



2 x

After approx. 3 seconds, two short acoustic signals confirm that this position is stored.

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4. Open the window or door again.



2 seconds

A long acoustic signal confirms the successful teach-in process and the LED goes off.

**The teach-in process is completed at this point.**



5 minutes

You can check the stored window and door positions for five minutes after the teach-in process.

1. Open, tilt and close the window or door with the fixed DuoFern Window/Door Contact.

**Each detected position is acknowledged by acoustic signals:**



1 x = Open



2 x = Tilted



3 x = Closed

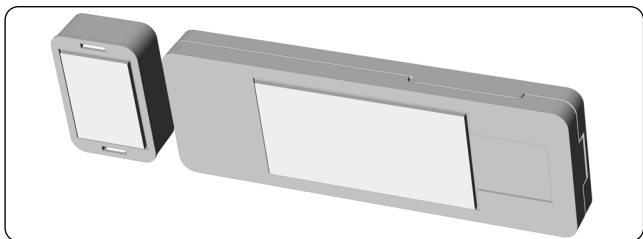


The DuoFern Window/Door Contact is ready for operation if the teach-in process has been fully completed.



If the installation position of the window or door changes over time and the teach-in positions therefore no longer lead to the desired control commands, you may need to carry out a new teach-in process.

1. Mark the installation positions of the sensor part and magnet, e.g. with a pencil.
2. Detach the fixed sensor part and magnet.
3. Remove the round adhesive pads and clean the adhesive points thoroughly with the cleaning cloth provided.
4. Apply the double-sided adhesive strips.



5. Re-affix the sensor part and magnet precisely to the previously marked points with light pressure.



Repeat the teach-in process if necessary (see page 20), if the respective states are no longer detected properly after the final installation.

In order for your DuoFern Window/Door Contact to send control signals in the DuoFern network, it is necessary to log any desired DuoFern device (e.g. DuoFern actuator etc.) on to the DuoFern Window/Door Contact.



Please read the instruction manual for the respective DuoFern device.








Battery-operated DuoFern devices cannot be logged on to the DuoFern Window/Door Contact.



The teach-in process for the window/door positions must be successfully completed, see page 20.

### Maximum number of logged-on devices

You can log on a maximum of five DuoFern devices.






1.   Switch the respective DuoFern device to registering mode.
  2.   Press the log-on button on the DuoFern Window/Door Contact.
-  60 sec. The registering mode remains active for 60 seconds.

### LED signals when logging on

- ◆ Flashes green: during the login
- ◆ Lights up green for 5 seconds: after a successful login
- ◆ Lights up red: if the maximum number of participants has already been reached or an attempt has been made to log on a battery-operated DuoFern device



The log-on process can be cancelled prematurely by pressing the log-on or log-off button.

1.   Switch the respective DuoFern device to log-off mode.
2.   Press the log-off button on the DuoFern Window/Door Contact.  
 60 sec. The log-off mode remains active for 60 seconds.

### LED signals when logging off

- ◆ Flashes red: during the log-off
- ◆ Lights up green for 5 seconds: after a successful log-off
- ◆ Lights up red: if the log-off was not successful



The log-off process can be cancelled prematurely by pressing the log-on or log-off button.

A DuoFern device that is no longer available by radio can be logged off the DuoFern Window/Door Contact.

1.




Press the log-on button for five seconds until the LED lights up green.  
All unavailable DuoFern devices are logged off.



#### **LED signals during the clearing process**

- ◆ Flashes green: when the button is pressed
- ◆ Flashes red: during the clearing process
- ◆ Lights up green for 5 seconds: as soon as the clearing process is complete, now release the button

The switching commands of the DuoFern Window/Door Contact can be used to trigger scenes in combination with the SmartHome Box. To do so, it must first be logged on to the SmartHome Box.

1. Open the user interface of the SmartHome Box and click on the button at the bottom left [ **Configuration** ] and then on [ + **Logging on devices** ].
2.  Press the log-on button on the DuoFern Window/Door Contact.
3. After the log-in is successfully completed, the LED lights up green for 5 seconds. The DuoFern Window/Door Contact appears in the log-on dialogue in the SmartHome Box user interface.



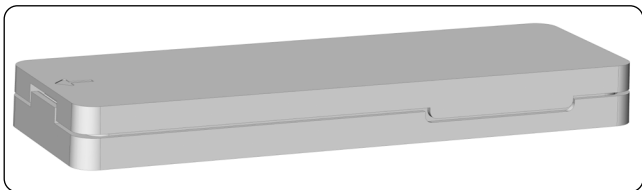
Press the log-off button for five seconds; the LED flashes red during this time.



As soon as the LED lights up red continuously, all settings are deleted and the DuoFern Window/Door Contact returns to its original default condition.

## 13. Closing the housing cover

Press the cover carefully onto the sensor part after completing all the settings. Check the correct positioning of the cover so that it is fully engaged on both sides.





**Chemical solvents may damage the DuoFern Window/Door Contact.**

- ◆ Use only a soft, slightly damp cloth to clean the device.

## 15. Simplified EU declaration of conformity



RADEMACHER Geräte-Elektronik GmbH, hereby declares that the DuoFern Window/Door Contact 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](http://www.rademacher.de/ce)

## Warranty terms and conditions

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

### Disposal

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This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.



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