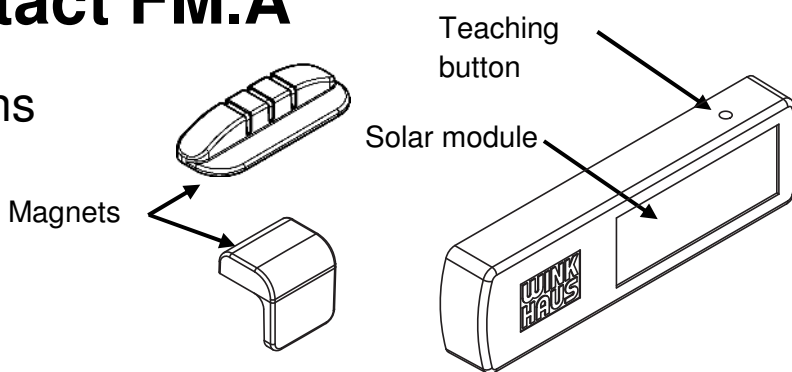


Wireless Contact FM.A

Operating instructions



1. Product description

The FM.A wireless contact is a visible, energy self-sufficient radio contact, which is fixed to the window. It is visibly installed on the window frame, enabling detection of opening and closing procedures of a window in combination with a magnet attached to the sash. After the teaching process the signal is wirelessly transmitted to a subsequent EnOcean-compatible component or a subsequent EnOcean-compatible smart home system, using an EnOcean radio protocol.

A possible application of the sensor is heating control. In combination with suitable heater actuators it is possible to turn the heating down and hence to save energy when the window is open. Further solutions include the connection of a relay, e. g. to activate or deactivate air conditioners or ventilation systems. It is also possible to control the window by means of appropriate alarm sensors and control centres.

2. Scope of delivery

- 1 x Wireless contact FM.A
- 2 x Contactor FM.A
- 2 x Adhesive pad for radio contact FM.A
- 2 x Adhesive pad for contactor FM.A
- 1 x Operating instructions

3. Product information



Technical data

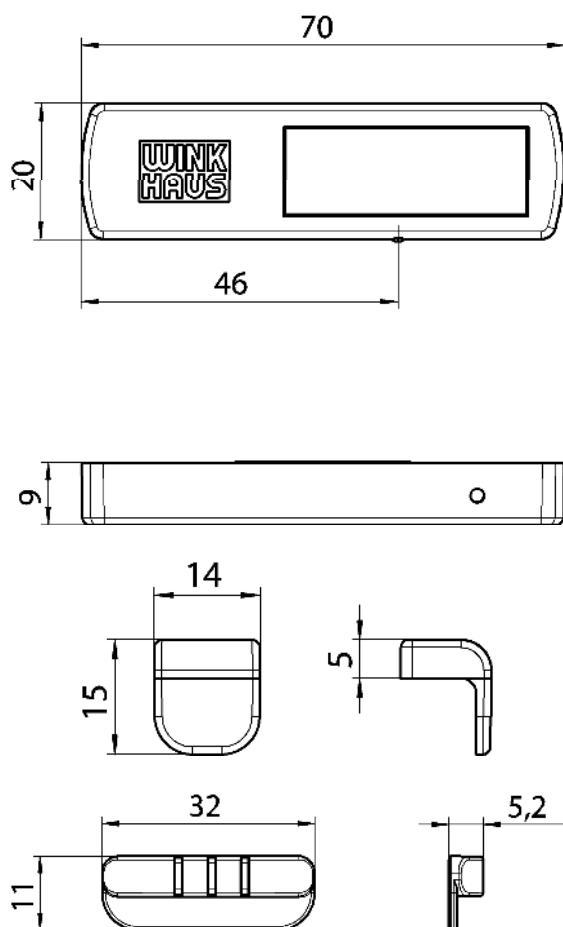
General data	
Designation	Wireless contact FM.A
Operating temperature	0 °C up to +60 °C
Suitable for	Windows and doors made of PVC-U, timber or aluminium
Air moisture	0 % – 93 % relative humidity, non-condensing
Protection type	IP 30
Storage and transport conditions	+10 °C up to +30 °C, < 60 % relative humidity, non-condensing

Mechanical data	
Dimensions sensor W/H/D	70 x 9 x 20 mm
Universal magnet W/H/D	14 x 5.0 x 15 mm 32 x 5.2 x 11 mm
Material (housing)	Polyamide
Fixing type	Adhesive bonding to plane surface
Max. distance of magnet to radio contact	approx. 5 mm
Fixing place	Window or door frame in well-lit places

Electrical data	
Power supply	Solar-powered energy storage
Service life in darkness	Usually approx. 90h at 25°C in complete darkness, up to 6 days (144 h) if fully charged

Communication	
Radio	EnOcean, unidirectional
Radio protocol	EnOcean Equipment Profile (EEP), D5-00-01
Frequency	868.3 MHz
Output (typ.)	5,7 dBm @ 50 Ohm
Typical ranges Standard values in buildings under optimum conditions	Plasterboard/timber 30m through max. 5 walls Masonry 20m through max. 3 walls Ferroconcrete 10m through max. 1 wall

4. Dimensions



5. Start-up

Before the start-up

These mounting instructions include the installation and the teaching procedure of Winkhaus wireless contacts on a window or patio door. Every person in charge of installation must have read and understood these mounting instructions.

During installation and use it is important to protect the wireless contact from heavy shocks, as it may be damaged.

The wireless contact FM.A is not suitable for outdoor use and in humid environment.

Preparation

The wireless contact FM.A is delivered ready for use, but the energy storage might be empty if it was stored for a long period. The energy storage is refilled automatically with the aid of the solar cell in daylight. If the wireless contact FM.A does not react to the teaching procedure, it should be charged in a bright place for a few hours. (The contact must not be exposed to direct solar radiation).

Teaching procedure

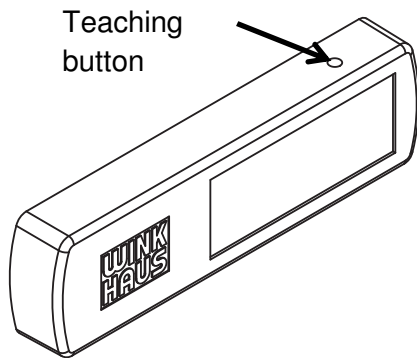
In order to make rational use of the wireless contact it is necessary to teach it in with a compatible smart home system or another compatible component (e. g. EnOcean-compatible relays, actuators etc).

Step 1: Activate the teaching mode

For starting the teaching procedure you first need to switch the smart home system or the subsequent component into the teaching mode. (How this is done you can learn from the operating instructions of the smart home system or the subsequent component.)

Step 2: Teaching

Now put the wireless contact FM.A into the teaching mode. To this effect press the teaching button by means of a straightened paper clip.



Now the wireless contact FM.A has been taught in.

The wireless contact FM.A supports the following Equipment Profile (EEP):

D5-00-01 (1BS telegram)

This radio telegram transmits the states: open/ closed.

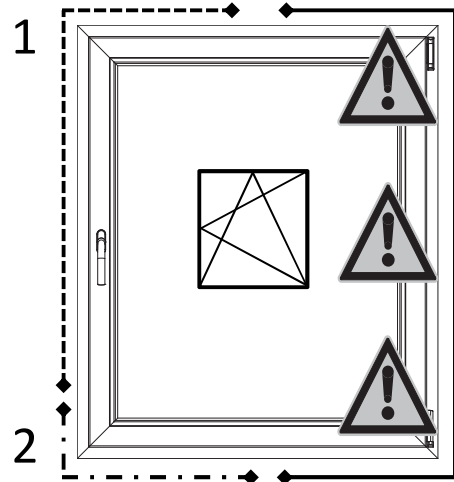
Installation

The wireless contact is suited for installation into windows and doors made of PVC-U, timber or aluminium. The following section describes the installation of a radio contact into a turn-tilt window. Installation into a door is performed in the same way.

Step 1: Choose mounting place

The perfect place for attaching the radio contact is at the upper area of the window's drive side. In this position the tilt as well as the turn position of the sash is indicated as "open" (see positioning area 1 in the illustration below).

If the tilt position of the window is not indicated as "open" but "closed", the radio contact should be installed in a horizontal position at the bottom (see positioning area 2).

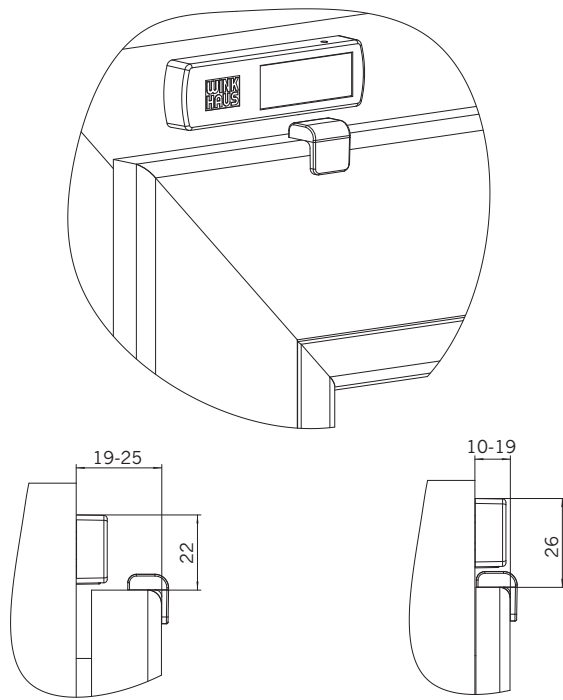


Please note:

Please observe that the indicated areas are not suitable for installation of the radio contact FM.A because either the opening of the window may cause damage of the radio contact FM.A or the detection of the window's opening may be very unprecise.

Step 2: Mounting the wireless contact and magnet

The installation position of the magnet and the radio contact FM.A may vary according to the window model. The following illustration shows basic installation positions with the help of the example of the upper window corner at the handle side.

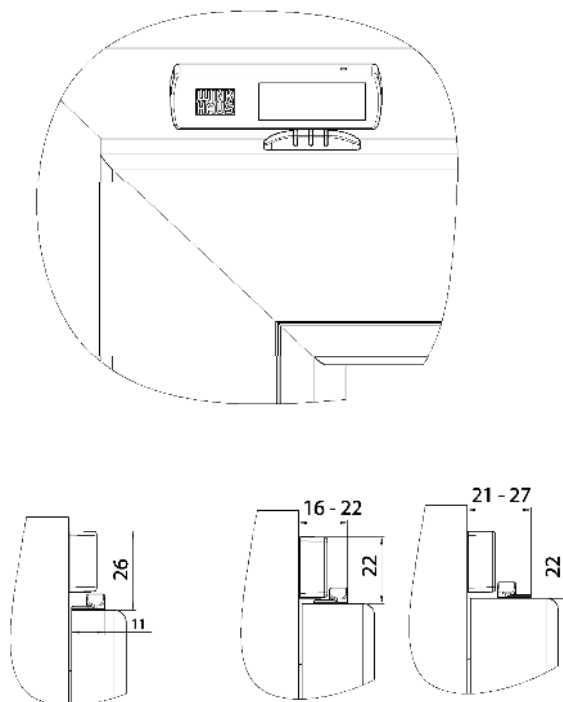


If the sash overlap is smaller than 19 mm (which is frequently the case with aluminium windows), the magnet and the radio contact should be positioned one below the other (third illustration).

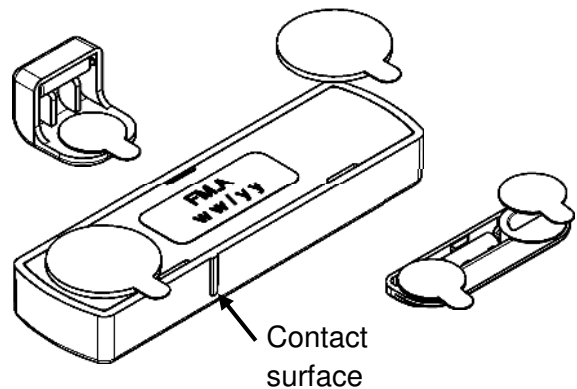
During installation please make sure to locate the magnet in front of or below the contact surface (line mark below the sensor, see illustration) of the radio contact.

For fixing the magnet please use the attached adhesive pads. Attach one pad beneath the smooth surface of the magnet. Then fix the magnet to the mounting position on the window.

For fixing the FM.A radio contact use the two large adhesive pads. Stick them beneath the ground of the radio contact FM.A. After that fix the wireless contact FM.A to the mounting position on the window.



If the sash overlap height is bigger than 19 mm (which is frequently the case with PVC-U and timber windows), the magnet and the wireless contact should be mounted in a way that the magnet is positioned in front of the wireless contact (first illustration).



Step 6: Functional test

After the installation we recommend you to perform a functions test. Open the window and verify whether the smart home system or the subsequent component responds to the opening of the window. If there is no response, use the section 7 (possible sources of error) of these instructions to solve the problem.

6. Maintenance and cleaning

Check window adjustment

In the life of a window influences like wear, heat and cold may induce a misalignment of the window fitting. For this reason window fittings should be controlled and maintained on an annual basis. On this occasion, additionally check whether the distance between the magnet and the wireless contact is large enough (min. 1 mm, max. 5 mm). If the distance is too small or the two components collide, the window fitting must be adjusted in order to avoid damage to the wireless contact or the magnet (see illustration *Step 2: Mounting wireless contact and magnets*).

Cleaning

Normally cleaning of the radio contact is not necessary. However, if you wish to clean its surface, you can use a dry and soft cloth. Heavy soiling can be removed by means of a cloth dampened with lukewarm water.

Please do not use any aggressive or solvent-containing detergents damaging the plastic surface of the housing.

7. Possible sources of error

The following section enumerates the most frequent sources of error of non-functioning of the radio contact.

Empty energy storage

It is possible that the energy storage of the FM.A radio contact is empty due to a long period of storage in darkness. The energy storage refills automatically in daylight. If the wireless contact FM.A does not react

to the teaching procedure, it should be left in a bright place for a few hours. (Attention: do not expose to direct solar radiation.)

Check the radio protocol

If several attempts to teach the sensor fail, please verify whether the subsequent device or the smart home system is compatible with the EnOcean radio protocol.

Repeat the teaching procedure

Repeat the teaching procedure, referring to *Step 2* of the Maintenance section.

Check the radio range

If there is no connection between the radio contact and the subsequent component or smart home system, you should check whether the distance is too big, whether there are too many obstacles between the radio contact and the receiver or whether there are any interference fields. The best way to do so is to unmount the wireless contact and check its function in close proximity to the receiver. If it works in proximity to the receiver, but not in the place where it is installed, it is recommended to use a repeater in order to increase the radio range.

Installation


In case the sensor permanently detects an open window (which however is closed) although the teaching procedure was performed correctly, this may have the following reasons:

- There is no magnet.
- The magnet is not correctly positioned on the sensor surface.

If there is no magnet, it must be attached in order to restore the function.

If there is a magnet, please verify whether the magnet is in its correct position on the sensor surface and whether the distance between the radio contact and the magnet is o.k. (must not exceed 5 mm). Should the distance be too big, you can improve the position of the magnet by means of the adjustment screws of the fitting system. If this is not successful, restart positioning the sensor and the magnet (When adjusting the window fitting, please observe the maintenance and adjustment instructions of the window fittings manufacturer in question.)

8. Declaration of conformity

 This product complies with the basic requirements and instructions of the R&TTE guideline 1999/5/EG.

You can download the declaration of conformity in the download section on the internet at www.winkhaus.de.

9. Disposal information



FM wireless contacts include elements treated as electronic waste and thus must not be disposed of with the normal household waste. The housing is made of recyclable plastic material.

When disposing of waste, please observe the locally-valid rules and laws.

10. All rights reserved

The following information and illustrations reflect the current state of our development and manufacturing of this product. In order to achieve customer satisfaction and reliability of the wireless contacts we reserve the right to change the product. Any information given in this document has been compiled and verified with the greatest care. Due to the constant technical progress, changes in legislation and other inevitable changes, we cannot accept any responsibility for the accuracy and completeness of the contents. We are always thankful for suggestions and comments.

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