

WinDoor RF / WinDoor RF 915

KNX-RF magnetic contact for door or window

**ZRFWD
ZRFWD915**

Application program version: [1.1]
User manual edition: [1.1]_a

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DOCUMENT UPDATES

Version	Changes	Page(s)
[1.1]_a	Internal optimisation.	-

1 INTRODUCTION

1.1 WinDoor RF / WinDoor RF 915

WinDoor RF or **WinDoor RF 915** from Zennio is a device that detects and notifies the opening and closing of doors and windows, communicating completely wirelessly by radio frequency. This device is designed to be placed in the frame of doors and windows easily.

There are two different products for two different frequencies:

- **WinDoor RF** (ref. ZRFWD) for 868 MHz.
- **WinDoor RF 915** (ref. ZRFWD915) for 915 MHz.

Hereafter this document will refer to WinDoor RF generically for both devices.

The most outstanding features of WinDoor RF are:

- **Door/window opening and closing detection** with the possibility of configuring delays and periodic sends.
- **Radiofrequency communication** (868 MHz o 915 MHz, depending on the model).
- Configurable **transmission power**.
- **Alarms** to indicate if there is tampering or low battery in the device.
- **Heartbeat** or periodic “still alive” notification.

1.2 INSTALLATION

WinDoor RF it is entirely powered through a battery. The communication with the other devices of the installation is carried out through the RF antenna that incorporates inside.

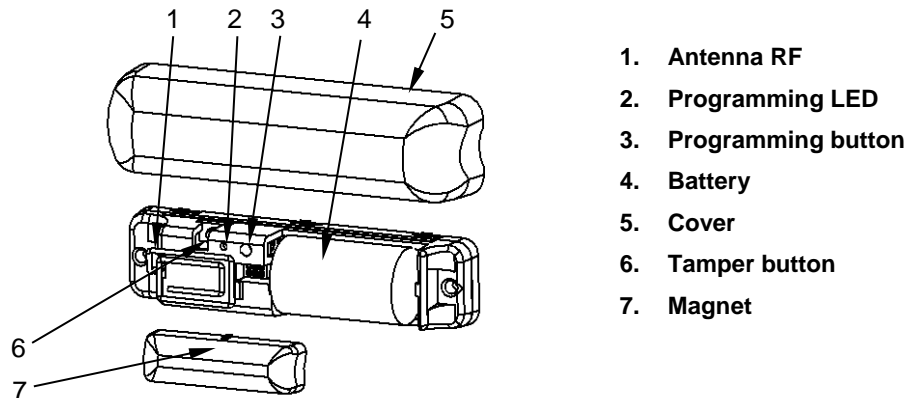


Figure 1. WinDoor RF elements

The main elements of the device are described next:

- **Programming button (3):** a short press on this button sets the device into the programming mode, making the associated LED (2) light in red.

Note: if this button is held while plugging the battery, the device will enter the **safe mode**. In such case, the LED will blink in red every 0.5 seconds.

- **Tamper sensor (6):** allows to detect if the device enclosure has been tampered with.

To get detailed information about the technical features of this device, as well as on the installation process and on security procedures, please refer to the corresponding **Datasheet**, bundled with the original packaging of the device and also available at www.zennio.com.

1.3 DEVICE PROGRAMMING

Once the battery is connected, downloading both the physical address and the application program will be possible. To do this WinDoor RF must be in “**active**” state. As long as there are no open/close events, the WinDoor RF remains in a low consumption idle state in which it does not respond to orders or reading requests, therefore, it is necessary to force it out of this idle state in order to perform the downloading.

WinDoor RF enters the active state for 1 minute in the following cases:

- When pressing the programming button.
- After power failure. Resetting the device will also cause the programming led to blink. After this flashing WinDoor RF enters in active state.

Note: *If the programming LED does not light up when connecting the battery, perform a longer power failure (at least 30 seconds).*

- After the first window/door closing. The first time the closed window/door contact is detected since the last reset, there will be several flashes of the programming LED. After this blinking, WinDoor RF enters in active state.

1.4 START-UP AND POWER LOSS

During the start-up of the device, the programming LED will blink.

After each restart, the status of the **window/door** will be sent. In addition, if the **tamper** and **battery alarms** are enabled, the status of the 2 alarms will also be sent after the restart.

2 CONFIGURATION

After importing the corresponding database in ETS and adding the device into the topology of the desired project, the configuration process begins by entering the parameters window of the device.

2.1 GENERAL

In “General” tab all the functionality of the device will be configured, being its main function the sending of **window/door state** after each opening or closing.

In addition, two **alarms** will be available:

- **Tamper:** notifies whether the device has been tampered with by removing its enclosure.
- **Battery:** warns the user when the battery level is about to run out.

ETS PARAMETERISATION

The screenshot shows the 'GENERAL' configuration screen for a device. The settings are as follows:

Parameter	Value
Transmission Power	Medium
Heartbeat (Periodic Alive Notification)	<input checked="" type="checkbox"/>
Period	1 Day(s)
Window/Door Status Object	<input checked="" type="checkbox"/>
Object Polarity	<input type="radio"/> 0 = Open; 1 = Closed <input checked="" type="radio"/> 0 = Closed; 1 = Open
Delay	0 s
Periodic Send (0 = Disabled)	0 h
Alarm: Tamper	<input type="checkbox"/>
Alarm: Battery	<input type="checkbox"/>

Informational messages:

- Higher transmission power means shorter battery life.
- Frequent periodic transmissions means shorter battery life.

Figure 2. General screen

From this screen, configuring the next parameters will be possible:

- **Transmission Power** [*Minimum / Low / Medium / High / Maximum*]¹: allows to set the transmission power of the device.

Note: *higher transmission power increases the transmission distance of the WinDoor RF but also shortens battery life.*

- **Heartbeat (Periodic Alive Notification)** [*enabled/disabled*]: incorporates a one-bit object to the project (“**[Heartbeat] Object to Send ‘1’**”) that will be sent periodically with a value of “1” to notify that the device is still working (still alive).



Figure 3. Heartbeat

Note: *the first sending after download or bus failure takes place with a delay of up to 255 seconds, to prevent bus overload. The following sendings match the period set.*

- **Window/Door Status Object** [*enabled*]: enables the object “**Window/Door (Status)**” through which the notification of the window/door status is sent. After each state change, this object is always sent twice to ensure a correct communication. Associated with this functionality, the following parameters are shown:
 - **Object Polarity** [*0 = Open; 1 = Closed / 0 = Closed; 1 = Open*]: sets the polarity of the object “**Window/Door (Status)**”.
 - **Delay** [*0...255*][s]: allows to set a delay in seconds from detecting a change in the window/door status until the value is sent.
 - **Periodic Send (0 = Disabled)** [*0...24*][h]: allows to configure a periodic sending in hours of the window/door status.

¹ The default values of each parameter will be highlighted in blue in this document, as follows: [*default/rest of options*].

- **Alarm: Tamper** [[enabled/disabled](#)]: enables the object “**Alarm: Tamper (Status)**” through which a '1' is sent when the device enclosure is removed.

Note: *the tamper alarm will be sent 5 times after each change of state or reset.*

- **Alarm: Battery** [[enabled/disabled](#)]: enables the object “**Alarm: Battery (Status)**” through which a '1' is sent when the battery level is about to run out. Whenever this parameter is enabled, **Heartbeat** will necessarily be enabled.

Important: *For a correct measurement of the battery status it is necessary to **link the Heartbeat object** so that it will be sent periodically. Because of this, whenever the battery alarm is enabled, the Heartbeat will also be forced to be enabled.*

Note: *the battery alarm will be sent twice after each change of state or reset.*

ANNEX I. COMMUNICATION OBJECTS

- “**Functional range**” shows the values that, with independence of any other values permitted by the bus according to the object size, may be of any use or have a particular meaning because of the specifications or restrictions from both the KNX standard or the application program itself.

Number	Size	I/O	Flags	Data type (DPT)	Functional Range	Name	Function
1	1 Bit		CT----	DPT_Trigger	0/1	[Heartbeat] Object to Send '1'	Sending of '1' Periodically
2	1 Bit		CT----	DPT_Window_Door	0/1	Window/Door (Status)	0 = Closed; 1 = Open
	1 Bit		CT----	DPT_Window_Door	0/1	Window/Door (Status)	0 = Open; 1 = Closed;
3	1 Bit		CT----	DPT_Alarm	0/1	Alarm: Tamper (Status)	0 = No Alarm; 1 = Alarm
4	1 Bit		CT----	DPT_Alarm	0/1	Alarm: Battery (Status)	0 = No Alarm; 1 = Alarm

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<https://support.zennio.com>

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