WinDoor RF v2

KNX-RF magnetic contact for door or window

ZRFWDV2

www.zennio.com

CONTENTS

1 INTRODUCTION

1.1 WINDOOR RF V2

WinDoor RF v2 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.

The most outstanding features of **WinDoor RF v2** are:

- **Door/window opening and closing detection** with the possibility of configuring delays and periodic sends.

- **Radiofrequency communication** (868 MHz)**.**

- Configurable **transmission power**.

- **Alarm** to indicate if there is low battery.

- **Heartbeat** or periodic "still alive" notification.

1.2 DEVICE PROGRAMMING

Once the battery is connected, downloading both the physical address and the application program will be possible. To do this **WinDoor RF v2** must be in **"active"** state. As long as there are no open/close events, the **WinDoor RF v2** 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 v2 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 v2** 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).*

- <u>After the first window/door closing</u>. 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 v2** enters in active state.

1.3 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 **battery alarm is** enabled, his status will also be sent.

1.4 BATTERY REPLACEMENT

Once the device has detected low battery, the alarm will be active until a successful reset is performed, for which it is advisable to perform at least one of the following actions:

- Press the programming button and remove the dead battery.

- Remove the old battery and move the magnet closer, opening and closing the door or window.

In any case, it should be noted that the programming LED flashes less and less brightly until it goes out. This will ensure that the alarm is reset when the new battery is installed.

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.
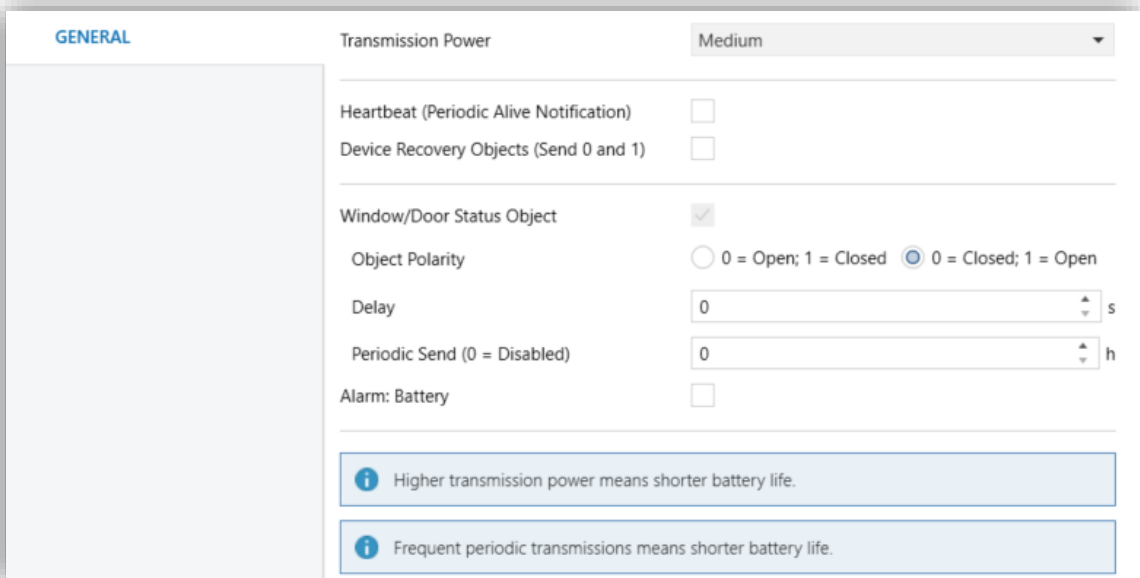
2.1 GENERAL

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, one **alarm** will be available:

- **Battery:** warns the user when the battery level is about to run out.

ETS PARAMETERISATION

Figura 1. General screen

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

- **Transmission Power** [_Minimum / Medium / Maximum_][1]: allows to set the transmission power of the device.

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

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

- **Heartbeat (Periodic Alive Notification)** [*disabled / enabled*]: 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 1. 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.*

- **Device Recovery Objects (Send 0 and 1)** [*disabled / enabled*]: this parameter lets the integrator activate two new communication objects ("**[Heartbeat] Device Recovery**"), which will be sent to the KNX bus with values "0" and "1" whenever the device begins operation (for example, after a bus power failure). It is possible to parameterise a certain **delay** [*0…255*][*s*] to this sending.
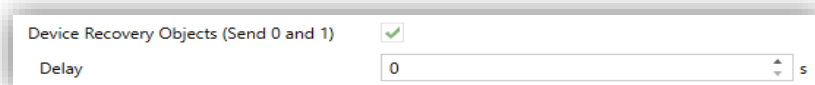

Figure 2. Device Recovery Objects.

Note: After download or bus failure, the sending takes place with a delay of up to 6,35 seconds plus the parameterised delay, to prevent bus overload.

- **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 object, 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.

● **Alarm: Battery** [*disabled / enabled*]: enables the object "**Alarm: Battery (Status)**" through which a '1' is sent when the battery level is about to run out.

Note: *the battery alarm will be sent periodically every day, while the 'No alarm' notification will be sent only once. After each device reset the battery state will be notified.*

➢ **Periodic Send (0 = Disabled)** [*0...24*][*h*]:

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	O	C R - T -	DPT_Trigger	0/1	[Heartbeat] Object to Send '1'	Sending of '1' Periodically
2	1 Bit	O	C R - T -	DPT_Trigger	0/1	[Heartbeat] Device Recovery	Send 0
3	1 Bit	O	C R - T -	DPT_Trigger	0/1	[Heartbeat] Device Recovery	Send 1
4	1 Bit	O	C - - T -	DPT_Window_Door	0/1	Window/Door (Status)	0 = Closed; 1 = Open
	1 Bit	O	C - - T -	DPT_Window_Door	0/1	Window/Door (Status)	0 = Open; 1 = Closed;
5	1 Bit	O	C - - T -	DPT_Alarm	0/1	Alarm: Battery (Status)	0 = No Alarm; 1 = Alarm

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