

RingBOX

KNX Doorbell - 4 doorbells and 8 tones

with KNX secure

ZSIRBOX

USER MANUAL

Application Program Version: [1.0]
User manual edition: [1.0]_a

www.zennio.com

CONTENT

Content 2
1 Introduction 3
1.1 RingBOX 3
1.2 Start-Up and Power Loss 3
2 Configuration 4
2.1 General 4
2.1.1 Doorbells 5
2.1.2 Scenes 8
ANNEX I. Communication objects 10

1 INTRODUCTION

1.1 RINGBOX

Zennio RingBOX is a KNX doorbell. Up to four independent Doorbells can be played through two integrated loudspeakers on a single audio output. The main features, common to all available Doorbells, are:

- **Playback control.**
- **Selection of up to** 8 tones per Doorbell.
- **Number of repetitions:** configurable.
- **Volume control** with three discrete levels (Low, High and Boost) plus a Mute option.
- **Do Not Disturb mode**.
- **Priority between Doorbells**.
- **Heartbeat** or periodical “still-alive” notification.
- **Scene-triggered action control**, with up to five independent scenes.
- **KNX Secure.** For detailed information about the functionality and configuration of KNX secure, consult the specific user manual “KNX Secure Guide”, available in the product section of the Zennio web portal (www.zennio.com).

1.2 START-UP AND POWER LOSS

In the event of a power failure, RingBOX will interrupt any doorbell playback in progress, and once the power supply is restored, it will not resume the doorbell playback.

2 CONFIGURATION

2.1 GENERAL

After importing the corresponding database in ETS and adding the device to the desired project topology, the configuration process is started by accessing the device parameters tab.

ETS PARAMETERISATION

A "General" tab is available, from which the configuration of the device functionality can be carried out.

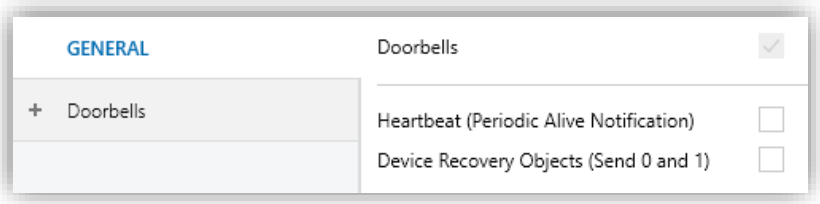


Figure 1. General tab

- **Doorbells** [*enabled*]: allows the "Doorbells" tab to be displayed, where they are configured accordingly. Always enabled. See section 2.1.1

- **Heartbeat (Periodic Alive Notification)** [*disabled / enabled*]: lets the integrator incorporate a one-bit object to the project ("[Heartbeat] Object to Send '1'") that will be sent periodically with value "1" to notify that the device is still working (*still alive*).

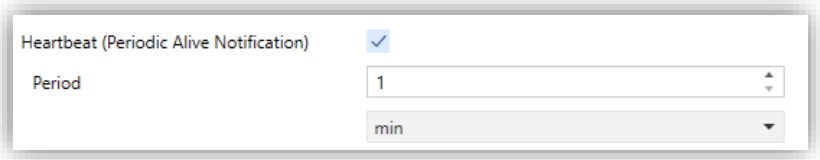


Figure 2. Heartbeat (Periodic Alive Notification).

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.

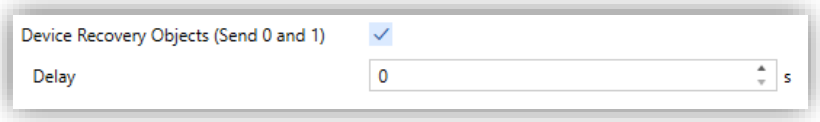


Figure 3. Device Recovery Objects

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.*

2.1.1 DOORBELLS

RingBOX can play up to 4 independent chimes through its integrated loudspeakers using a single audio output. Each chime can be configured individually and linked to its corresponding communication objects.

The general operation of this function is based on three aspects:

1. The number of enabled doorbells, which determines how many doorbells will be available for configuration.
2. The playback priority, which defines how the device behaves when several playback commands coincide.
3. The possibility of using scenes, to facilitate the activation of predefined configurations.

As doorbells are enabled, ETS automatically displays their configuration tabs in the tree on the left (see Section 2.1.1.1), together with the associated communication objects. In addition, regardless of the number of enabled doorbells, the 1-byte communication object **"[Doorbell] Control"** is always available, allowing any of the configured doorbells to be triggered.

ETS PARAMETERISATION

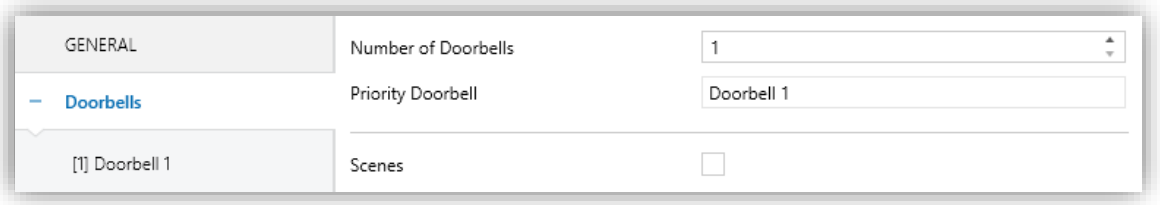


Figure 4. Doorbells tab

- **Number of Doorbells** [*1…4*]**:** selects how many doorbells will be available for configuration.

- **Priority Doorbell** [*Doorbell 1 / … / Doorbell 4*]: defines the doorbell with the highest playback priority among those enabled. If a new command coincides with another already in progress, the priority doorbell takes precedence over non-priority doorbells. This setting is defined during programming and cannot be modified at runtime via a communication object.at runtime.

- **Scenes** [*disabled / enabled*]: enables the scenes function. When enabled, the "Scenes" tab is displayed in the tree on the left (see Section 2.1.2), together with the 1-byte communication object "**[Doorbell] Scenes**".

2.1.1.1 DOORBELL X

In the "Doorbell X" tab, the operating parameters of each enabled doorbell are configured independently. This tab defines both the initial values that the doorbell will adopt after device programming and the communication objects associated with its control during runtime.

From this tab, it is possible to configure the doorbell name, its activation polarity, the assigned tone, the number of repetitions, the playback volume and the behaviour of the Do Not Disturb mode. The latter allows doorbell playback to be temporarily blocked in response to control commands, while the rest of the doorbell configuration remains unchanged.

When **Do Not Disturb** mode is active, any control command for the doorbell is ignored and the doorbell will not sound. If this mode is activated while the doorbell is already playing, the change will take effect on the next command. This mode does not affect the "**[Doorbell X][] Tone**" object, as it is used for tone preview.

ETS PARAMETERISATION

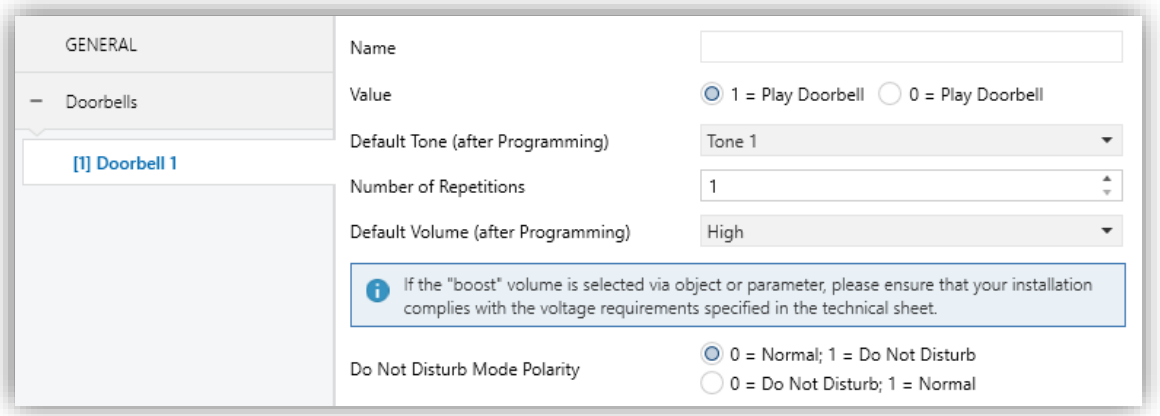


Figure 5. Doorbell X tab

- **Name**: allows an alphanumeric code of up to 12 characters to be assigned. This name will be displayed in the ETS tree on the left and in the objects associated with the doorbell.

- **Value** [*1 = Play Doorbell / 0 = Play Doorbell*]: defines the polarity of the trigger that activates the doorbell. A 1-bit communication object associated with this parameter is available: "**[Doorbell X][] Control**".

- **Default Ringtone (after Programming)** [*Ringtone 1 / … / Ringtone 8*]: Selects the tone initially assigned to the doorbell. It can be modified during runtime via the 1-byte object "**[Doorbell X][] Tone**", which plays the selected tone as a preview.

- **Number of Repetitions** [*1…10*]: defines how many times the tone will be played when the doorbell is triggered. This setting can only be configured during device programming.

- **Default volume (after programming)** [*Low / High / Boost*[1]]: defines the initial playback volume of the doorbell. It can be modified via the 1-byte object "**[Doorbell X][] Volume**", which also allows the No sound option to be selected.

- **Do Not Disturb Mode Polarity** [*0 = Normal; 1 = Do Not Disturb / 0 = Do Not Disturb; 1 = Normal*]: allows the polarity of the 1-bit communication object "**[Doorbell X][] Do Not Disturb Mode**".

[1] It is recommended to consult the device's technical data sheet when setting the volume to Boost mode.

2.1.2 SCENES



Figure 6. Scene tab

- **Number of scenes** [*0…5*]: allows the number of configurable scenes available to be selected. As the different scenes are enabled, their corresponding configuration tabs will appear in the tree on the left.

2.1.2.1 SCENE X

In the "Scene X" tab, each of the available scenes in the device is configured individually. Each scene is associated with an execution number and can be used to directly trigger one of the enabled doorbells and, optionally, to modify its internal configuration or that of other doorbells. In this way, a single scene command can be used either to play a doorbell or to apply new tone, volume or operating mode values beforehand.

In RingBOX, scenes are executed through the general communication object "**[Doorbell] Scenes**" and do not support a save function. During the parameterisation of each scene, it is possible to decide whether a doorbell should be played, whether the internal values of the enabled doorbells should be modified, or both at the same time. When no value changes are defined, the scene operates using the current configuration of the selected doorbell. In addition, scene execution follows the same priority rules as the rest of the control commands; however, the internal values are still updated even if the doorbell is ultimately not played.

ETS PARAMETERISATION

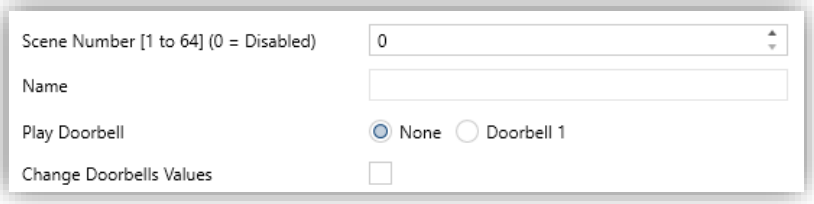


Figure 7. Scene X tab

- **Scene Number [1 to 64] (0 = Disabled)** [*0…64*]: defines the value that triggers the scene. The value '0' leaves the scene disabled.

- **Name**: Allows an alphanumeric code of up to 12 characters to be assigned to identify the scene in the ETS tree on the left.

- **Play Doorbell** [*None / Doorbell 1 / … / Doorbell 4*]: Selects the doorbell that will be played when the scene is triggered, or none if the scene is only intended to apply configuration changes.

- **Change Doorbells Values** [*disabled / enabled*]: Enables the table from which the internal values of the available doorbells can be modified when the scene is executed:

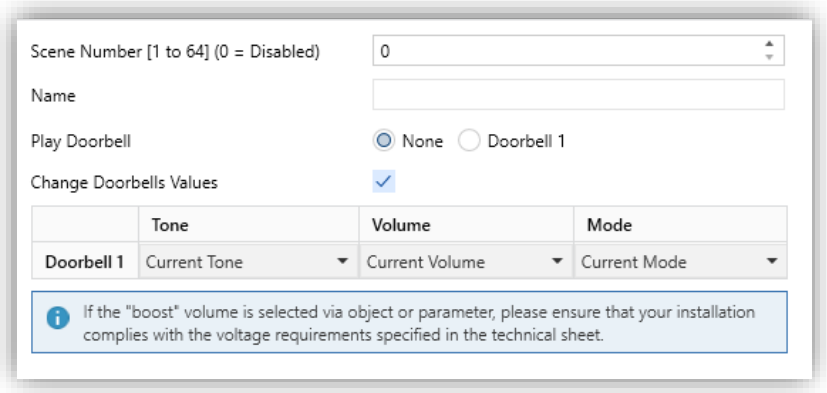


Figure 8. Doorbell configuration table via scenes

  - **Tone** [*Current Tone / Tone 1 / … / Tone 8*]: allows the current tone of the doorbell to be kept or a new one to be assigned.

  - **Volume** [*Current Volume / No sound / Low / High / Boost*]: allows the current volume to be kept or a new level to be applied, including the No sound option.

  - **Mode** [*Current Mode / Normal / Do Not Disturb*]: allows the current doorbell mode to be kept or forced to Normal or Do Not Disturb.

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 Byte	I	C - W T -	DPT_Value_1_Ucount	0 - 255	[Doorbell] Control	0 = Play Doorbel 1; 1 = Play Doorbell 2; … ; 3 = Play Doorbell 4
2	1 Byte	I	C - W - -	DPT_SceneControl	0-63; 128-191	[Doorbell] Scenes	0 – 63 (Execute 1 – 64)
3, 7, 11, 15	1 Bit	I	C - W T -	DPT_Ack	0/1	[Doorbell x][x] Control	0 = Play Doorbell
	1 Bit	I	C - W T -	DPT_Ack	0/1	[Doorbell x][x] Control	1 = Play Doorbell
4, 8, 12, 16	1 Byte	I	C - W T -	DPT_Value_1_Ucount	0 - 255	[Doorbell x][x] Tone	0 = Tone 1; 1 = Tone 2; … ; 7 = Tone 8
5, 9, 13, 17	1 Byte	I	C - W T -	DPT_Value_1_Ucount	0 - 255	[Doorbell x][x] Volume	0 = No Sound; 1 = Low; 2 = High; 3 = Boost
6, 10, 14, 18	1 Bit	I/O	C R W T -	DPT_Enable	0/1	[Doorbell x][x] Do Not Disturb Mode	0 = Normal; 1 = Do Not Disturb
	1 Bit	I/O	C R W T -	DPT_Enable	0/1	[Doorbell x][x] Do Not Disturb Mode	0 = Do Not Disturb; 1 = Normal
19	1 Bit	O	C R - T -	DPT_Trigger	0/1	[Heartbeat] Object to Send '1'	Sending of '1' Periodically
20	1 Bit	O	C R - T -	DPT_Trigger	0/1	[Heartbeat] Device Recovery	Send 0
21	1 Bit	O	C R - T -	DPT_Trigger	0/1	[Heartbeat] Device Recovery	Send 1

Join and send us your inquiries about Zennio devices:

https://support.zennio.com

Zennio Avance y Tecnología S.L.
C/ Río Jarama, 132. Nave P-8.11
45007 Toledo, Spain.

Tel. +34 925 232 002.

www.zennio.com
*info@*zennio*.com*