TSE03-JOEL
TAC06-JOEL
DOOR BELL & PUSH BUTTON

General Introduction

The Wireless Door Bell & Push Button are a pair of Z-Wave™ enabled devices displaying the Z-Wave™ logo, operating at 868.42 MHz. Taking the role of a transmitter and a small Z-Wave controller, the Push Button sends signals of bell triggering to Door Bell (receiver) wirelessly after Button is pressed. The Push Button is compatible with other Z-Wave enabled devices.

The front buttons on Door Bell and Push Button provide not only the function of pressing but also the function of LED indication. Preset songs (5 by default) of Door Bell are available for sound selection, but it is also customizable as you can play own music by replacing it with your own WAV file.

The Door Bell is powered by 3 x AA 1.5V alkaline batteries and the Push Button is powered by 2 x AAA 1.5V alkaline batteries. When battery level drops below an unacceptable level, the LED on Bell will flash once every 30 seconds and flash while a song is playing, whereas the LED on Push Button will flash when Button is pressed. When this occurs, please replace the batteries as soon as possible.

Product Overview

Push Button

Front View   Rear View   Inside View
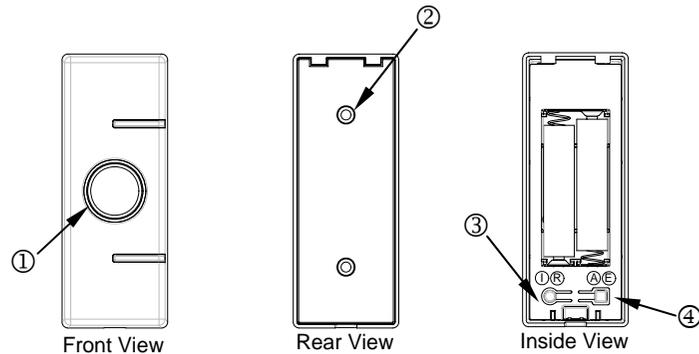
FIGURE 1

① LED Indicator/Button	③ ①® Key
② Holes for Wall Mounting	④ Ⓐ Ⓔ Key

Door Bell

Side View   Front View   Side View   Rear View   Inside View
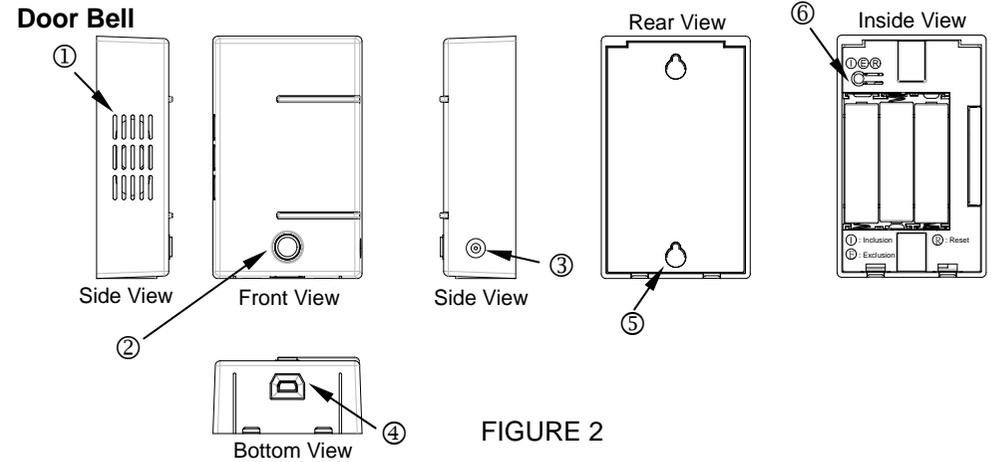
Bottom View   FIGURE 2

| ① Horn	② LED Indicator/Music Selector	③ DC Jack
④ USB Port	⑤ Keyhole Slot	⑥ ①Ⓔ® Key

Z-Wave™ Network

SPEAKS Ⓩ WAVE®

The kit utilizes Z-Wave technology where Push Button is the controller and Bell is Z-Wave enabled slave device in the system. Please refer to the table below for carrying out inclusion, exclusion, reset or association.

Function	Description	LED Indication
No node ID	The Z-Wave Controller (Push Button) does not allocate a node ID to the Door Bell.	Door Bell: 2-second on, 2-second off.
Inclusion	**To include Push Button as a Primary Controller**	
	1. To have Push Button entered inclusion mode, press ①® Key 3 times (within 1.5 secs).	Push Button: 0.5-second on, 0.5-second off.
	2. Press ①Ⓔ® Key of Door Bell 3 times (within 1.5 secs).	Door Bell: 0.3-second on after ①Ⓔ® is pressed.
	To include Push Button as a Secondary Controller	
	1. To have Controller entered inclusion mode.	
	2. Press and hold ①® Key of Push Button for 10 secs.	Push Button: 0.1-second on, 0.8-second off.
	Success	Push Button: Red LED of Push Button is on for 1 sec.
	Failure	Push Button: Red LED of Push Button flashes 3 times rapidly.

IMPORTANT NOTE:

If only one Door Bell is to be deleted from the Push Button, please execute Exclusion. Try not to reset Door Bell and Push Button unless you wish to clear all the data. Make sure to reset <u>BOTH</u> Door Bell and Push Button, otherwise a time delay (the Bell takes awhile to sound after you pressed the Push Button) might occur if you do the inclusion again. After reset, the connection between Push Button and Door Bell is disconnected. The Door Bell will not chime if you press the Push Button.

Quick Guide

Ⓘ = Inclusion
Ⓔ = Exclusion
Ⓡ = Reset

Door Bell
(inside view)

Ⓘ = Inclusion   Ⓔ = Exclusion
Ⓡ = Reset   Ⓐ = Association

Ⓘ : Inclusion   Ⓡ : Reset
Ⓔ : Exclusion
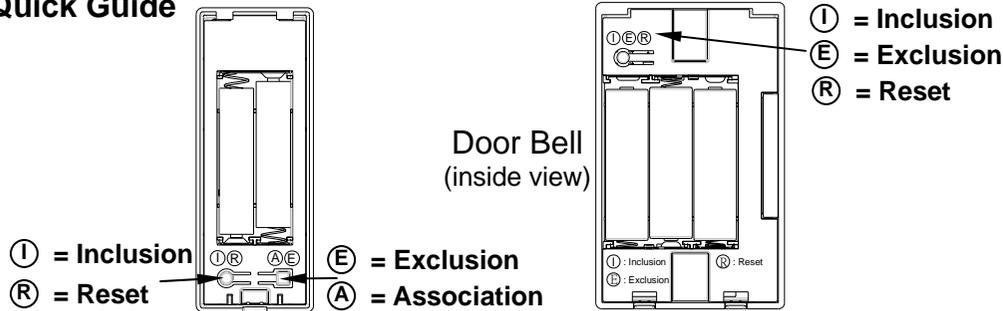
The kit utilizes Z-Wave technology. Please get familiar with the terms below before starting the operations.

Function	Abbrev.	Description
Inclusion	Ⓘ	Add a Z-Wave enabled device (e.g. Push Button) to Z-Wave network. To control the Door Bell by using the Push Button, you must add both of them to the network by executing Inclusion.
Exclusion	Ⓔ	Delete a Z-Wave enabled device (e.g. Door Bell) from the network.
Association	Ⓐ	After inclusion, you have to define the relationship between devices. Trough association, device can be assigned as master/slave, and specify which slave is going to be controlled by which master.
Reset	Ⓡ	Clear all the data.

Note: In Push Button, each button is designed for 2 functions, e.g. ⒤Ⓔ Key is for inclusion and reset & ⒶⒺ Key is for association and exclusion. As for Door Bell, one button (⒤ⒺⓇ Key) covers all functions.

Ⓘ = Inclusion

To include Push Button as a Primary Controller…

Push Button:
Press ⒤Ⓡ Key 3 times (within 1.5 secs), LED flashes on & off alternately.

Door Bell:
Press ⒤ⒺⓇ Key 3 times (within 1.5 secs).

To include Push Button as a Secondary Controller…

Put Controller (primary controller) into Inclusion mode.

Push Button (secondary):
Press and hold ⒤Ⓡ Key for 10 secs, LED flashes on & off alternately.

Success: Red LED of Push Button is on for 1 sec.
Failure: Red LED of Push Button flashes 3 times rapidly.

Ⓔ = Exclusion

Push Button:
Press ⒶⒺ Key 3 times (within 1.5 secs), and within 1 sec, press ⒶⒺ Key again for 5 secs until LED is off; LED flashes on & off alternately for 30 secs.

Door Bell:
Press ⒤ⒺⓇ 3 times (within 1.5 secs).

Success: Red LED of Push Button is on for 1 sec.
Failure: Red LED of Push Button flashes 3 times rapidly.

Ⓐ = Association

Push Button is compatible with other Z-Wave enabled devices. Please ensure they have completed inclusion before association.

Press ⒶⒺ Key 3 times (within 1.5 secs), LED flashes on & off alternately for 30 secs. Put Z-Wave enabled device (slave) into association mode first, and then put another Z-Wave enabled device (master) into association mode afterwards.

Success: Red LED of Push Button is on for 1 sec.
Failure: Red LED of Push Button flashes 3 times rapidly.

Ⓡ = Reset

Push Button:
Press ⒤Ⓡ Key 3 times (within 1.5 secs), and within 1 sec, press ⒤Ⓡ Key again for 5 secs until LED is off; LED flashes on & off alternately for 30 secs. All device data is cleared.

Door Bell:
Press ⒤ⒺⓇ Key 3 times (within 1.5 secs), and within 1 sec, press ⒤ⒺⓇ Key again for 5 secs until LED is off. The data got from Push Button is cleared.

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Function	Description	LED Indication
Exclusion	1. To have Push Button entered exclusion mode, press ⒶⒺ Key 3 times (within 1.5 secs).	Push Button: 0.1-second on, 0.8-second off.
	2. Within 1 sec, press ⒶⒺ Key again for 5 secs until LED is off.	
	3. Press ⒾⒺⓇ Key of Door Bell 3 times (within 1.5 secs).	Door Bell: 0.3-second on after ⒾⒺⓇ is pressed.
	Success (node ID has been excluded)	Push Button: Red LED of Push Button is on for 1 sec.
	Failure/Time Out	Push Button: Red LED of Push Button flashes 3 times rapidly.
Reset	Push Button: 1. Press ⒾⓇ 3 times (within 1.5 secs).	Push Button: 0.5-second on, 0.5-second off.
	2. Within 1 sec, press ⒾⓇ Key again for 5 secs until LED is off.	
	3. All device data is cleared.	
	Door Bell: 1. Press ⒾⒺⓇ 3 times (within 1.5 secs).	Door Bell: 0.3-second on after ⒾⒺⓇ is pressed.
	2. Within 1 sec, press ⒾⒺⓇ Key again for 5 secs until LED is off.	Door Bell: LED stays on until Reset is executed.
	3. The data got from Push Button is cleared.	
	IDs are excluded.	Push Button: Red LED of Push Button is on for 1 sec.
	After you've reset both Door Bell and Push Button, the connection between Push Button and Door Bell is disconnected. The Door Bell will not chime if you press the Push Button.	
Association (Push Button only)	Push Button is compatible with other Z-Wave enabled devices. Please ensure they have completed inclusion before association.	
	Press ⒶⒺ 3 times (within 1.5 sec).	Push Button: 0.5-second on, 0.5-second off.
	Put Z-Wave enabled device (slave) into association mode first, and then put another Z-Wave enabled device (master) into association mode afterwards.	
	Success	Push Button: Red LED of Push Button is on for 1 sec.
	Failure/Time Out	Push Button: Red LED of Push Button flashes 3 times rapidly.
※ Including a node ID allocated by Z-Wave Controller (Push Button) means inclusion. Excluding a node ID allocated by Z-Wave Controller means exclusion.		

Please also note:

Push Button

1. Z-Work network supports multiple controllers so you can use additional Push Buttons throughout the home, however, there can only be one controller acts as primary with the rest of controllers considered as secondary. Primary controller is the main controller which can be used to set up and control your Z-Wave network; it must be used to include/exclude devices. Secondary controllers are supportive controllers which are same brand and model as Primary Controller, except they cannot include/exclude devices.

2. If a secondary controller is to be added to the network, please ensure to have primary controller (e.g. Push Button) and device (e.g. Door Bell) complete inclusion first, and then include secondary controller (e.g. another Push Button) to the network afterwards.

3. If Push Button is set as a secondary controller, operation of inclusion, exclusion and association will be disabled except reset is still retained. To discharge the role of a secondary controller, you can…

   a. Have Primary Controller enter exclusion, and than put the Push Button into inclusion mode by pressing and hold ⒾⓇ Key of Push Button for 10 secs.

   b. Reset the Push Button.

Door Bell

The Door Bell will stay "awake" for ten minutes when power is first supplied and four minutes after exclusion and reset to allow time for configuration.

Choosing a Mounting Location

When choosing a suitable location for Push Button and Door Bell, the following points should be considered.

Push Button

1. The Push Button is suitable for mounting on doorjamb of the front door or a wall.

2. Position the Push Button in an easily accessible position and outdoor only.

Door Bell

1. The Door Bell is suitable for mounting on doorjamb of the front door or a wall; it can also be free standing for it to be placed and moved as need or in a place where the sound can be heard clearly.

2. It is recommended to position the Door Bell indoor only in an easily accessible position so the Bell can be connected to a computer if necessary.

Installation

Push Button

1. Insert a flat bladed screwdriver into the slot at the bottom of the Push Button. Lever the cover and base apart (FIGURE 3).

2. Fit two 1.5V AAA batteries supplied to the battery compartment (FIGURE 4). Please note, the adoption of alkaline battery is highly recommended as it would last longer.
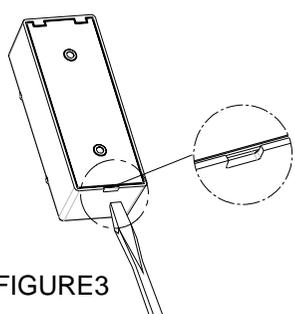
FIGURE3   FIGURE 4
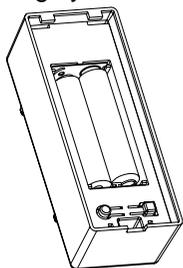
3. Mount the Push Button directly on to your door jamb or wall using adhesive strips or screws provided. Make sure the surface of the doorjamb or wall is clean.

   If fixing the Push Button with screws; hold the rear cover in position and drill two mounting holes. Insert the supplied plastic wall plugs, and then screw the rear cover to the wall using the supplied screws.
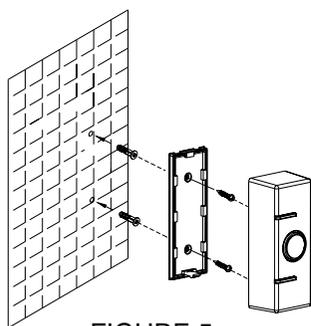
FIGURE 5

4. Refit the Push Button to the rear cover.

Door Bell

1. Insert a flat bladed screwdriver into the slot at the bottom of the Door Bell. Lever the cover and base apart (FIGURE 6).

2. Fit three 1.5V AA batteries supplied to the battery compartment. Please note, the adoption of alkaline battery is highly recommended as it would last longer (FIGURE 7).
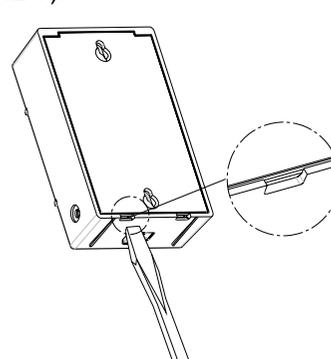
FIGURE 6   FIGURE 7
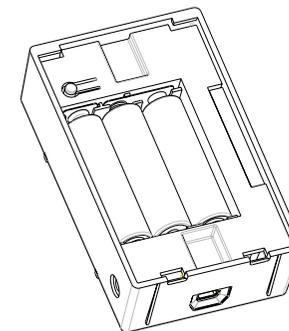
3. Decide to let the Bell freestanding or wall mounted. If wall mounting is preferred…

   Use the fixing template provided to mark the position of two fixing holes on the wall. Drill two holes at the marked locations, insert the supplied plastic wall plugs and then fit two screws into the wall plugs until almost fully home. Hang the rear cover over these screws using the two keyhole slots (FIGURE 8).

Door Bell
Fixing Template
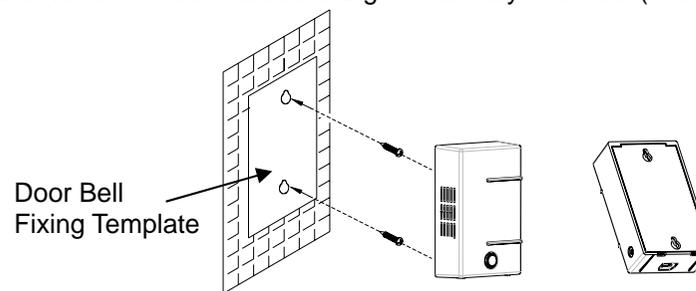
FIGURE 8

4. Engage the Door Bell to the rear cover.

Operation

To sound the Bell, you can press the Button of Push Button.   The Red LED of Push Button is on steadily while the signal is sending.   You can also press the Music Selector of the Door Bell to sound the Bell.

WAV is the only file type that can be played by Door Bell.   To download songs to Door Bell, please execute Door Bell.exe.   Before you install the program, make sure your computer meets or exceeds these requirements:

* Win2K / XP32 / XP64 / Vista32 / Vista64   * USB 1.1

Please follow the steps below in sequence to execute the program.

1.   Plug one end of USB cable into the Bell, and the other end into an open USB port of your computer.
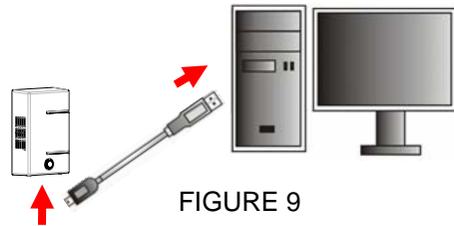
FIGURE 9

2.   The Door Bell.exe will auto run.   If it doesn't, please double click on Door Bell.exe under USB drive to execute the program.

3.   A user interface will display; it contains three parts of panes: Navigation Pane, List Pane and Clipboard.
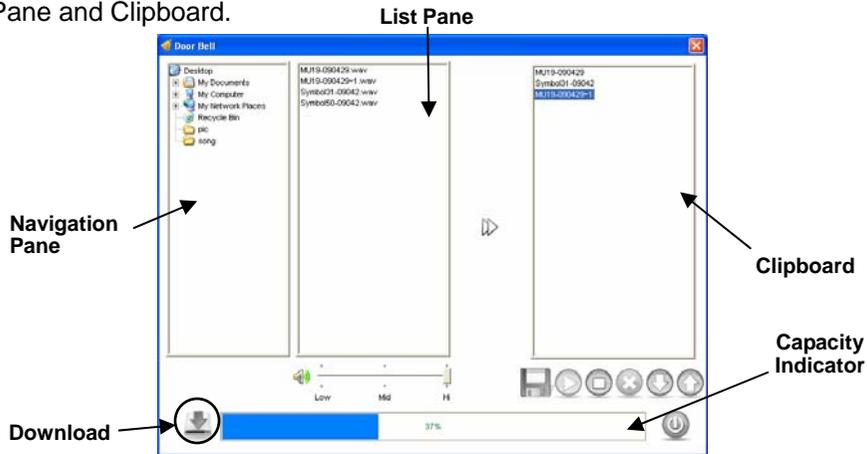
FIGURE 10

Navigation Pane: Displays a list of files those are placed on the desktop.   In the Look In drop-down list, select the folder where the songs are stored.

List Pane: It unfolds the folder you've selected in Navigation Pane; a list of songs stored in the folder is displayed.

Clipboard: A temporary storage area for selected songs.   They will be downloaded to the Bell once Download Key (as shown in FIGURE 10) is pressed.

The table below shows a list of keys and key functions.

Key	Name of Key	Function
	Add	Add a selected song to the playlist of Clipboard
	Download	Download songs from Clipboard to Door Bell
	Move Up	Move selected song/songs one space up in the playlist of Clipboard
	Move Down	Move selected song/songs one space down in the playlist of Clipboard
	Stop	Stop playing the selected song (Clipboard only)
	Play	Play the selected song (Clipboard only)
	Delete	Delete a song from the playlist (Clipboard only)
	Exit	Exit Door Bell.exe
	Save As	Save selected songs to another directory or location
	Volume Control (Low / Mid / Hi)	Adjusts the volume of songs; it determines the volume of Door Bell

If you wish to keep the preset songs, it is recommended you make a copy of them before carrying out the following steps.   To save the preset songs, press ; to download songs to Door Bell:

1.   Select a folder where the songs are stored in Navigation Pane.

2.   Select song/songs you wish to download to the Bell from List Pane.

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3. Press ▷▷ to add selected song/songs to the Clipboard. If storage capacity in Clipboard has exceeded the limit, a warning indication will be shown (FIGURE 11); likewise, you can refer to the capacity indicator for the percentage of being occupied storage.

4. Once you've completed song selections, press ⬇ to download selected songs to the Bell.   A saving prompt box will appear while data is saving (FIGURE 12).

Warning

The Space of Device is Full! Can't import.

[OK]

Saving Data
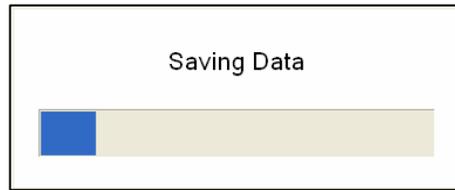
FIGURE 11   FIGURE 12

Advanced Operation (Programming)

To following information is for someone that has some experience setting up a Z-Wave system or someone that has computer software running a Z-Wave Controller. Through Controller, you can enquire the current status of Door Bell or set the Door Bell to return reports according to the settings as below.

1. Supported Z-Wave Commands

Door Bell will respond to BASIC and BINARY commands that are part of the Z-Wave system.

1-1 BASIC_GET / SWTICH _ BINARY _GET / SENSOR_BINARY_GET

Upon receipt of the following commands from a Z-Wave Controller, the Door Bell will report its current status (playing/ NOT playing) to the Controller.

BASIC_GET Command **[Command Class Basic, Basic Get]**: enquire the current status of the Door Bell, i.e. Door Bell is playing or not playing a song currently.
BASIC_REPORT Command **[Command Class Basic, Basic Report, Value = 0(0x00)]**: report Door Bell is not playing. **[Command Class Basic, Basic Report, Value = 255(0xFF)]**: report Door Bell is playing a song currently.

SWITCH BINARY GET Command **[Command Class Switch Binary, Switch Binary Get]**: enquire the current status of the Door Bell, i.e. Door Bell is playing or not playing a song currently.
SWITCH BINARY REPORT Command **[Command Class Switch Binary, Switch Binary Report, Value =0(0x00)]**: report Door Bell is not playing **[Command Class Switch Binary, Switch Binary Report, Value = 255(0xFF)]**: report Door Bell is playing a song currently.

SENSOR_BINARY_GET is equivalent to SWITCH_BINARY_GET; SENSOR_BINARY_REPORT is equivalent to SWITCH_BINARY_REPORT.

SENSOR BINARY GET Command **[Command Class Sensor Binary, Sensor Binary Get]**: enquire the current status of the Door Bell, i.e. Door Bell is playing or not playing a song currently.
SENSOR BINARY REPORT Command **[Command Class Sensor Binary, Sensor Binary Report, Value =0(0x00)]**: report Door Bell is not playing **[Command Class Sensor Binary, Sensor Binary Report, Value = 255(0xFF)]**: report Door Bell is playing a song currently.

1-2 BASIC_SET / SWTICH _ BINARY _SET

Upon receipt of the following commands from a Z-Wave Controller, the Door Bell can be set to playing / NOT playing.

[Command Class Basic, Basic Set, Value = 0(0x00)]: Set the Door Bell to stop playing. **[Command Class Basic, Basic Set, Value = 255(0xFF)]:** Set the Door Bell to play.

[Command Class Switch Binary, Switch Binary Set, Value = 0(0x00)]: Set the Door Bell to stop playing. **[Command Class Switch Binary, Switch Binary Set, Value = 255(0xFF)]:** Set the Door Bell to play.

1-3 BATTERY_GET / BATTERY REPORT

You can also enquire the battery status of the Bell by sending BATTERY_GET command via controller.   Once Bell receives the command, it will return BATTERY_REPORT command.

BATTERY_REPORT Command **[Command Class Battery, Battery Report, Battery Level =20%-100%]**

If it displays with a message of "Battery Level = 255(0xFF)", it implies that the Bell is at low battery status. Please replace the batteries as soon as possible.

2. Z-Wave's Groups (Association Command Class Version 2)

Door Bell can be set to send reports to associated Z-Wave devices. It supports one association group with 5 nodes.

2-1 ASSOCIATION_GET

ASSOCIATION_GET Command
[Command Class Association, Association Get]: enquire Door Bell about relevant information of Grouping 1.
ASSOCIATION_REPORT Command
[Command Class Association, Association Report]: report relevant information of Grouping 1.

ASSOCIATION_GROUPING_GET Command
[Command Class Association, Association Grouping Get]: enquire how many Groupings can be supported by the Door Bell.
ASSOCIATION_GROUPING_REPORT Command
[Command Class Association, Association Grouping Report]: report Door Bell can support 1 Grouping.

2-2 ASSOCIATION_SET

ASSOCIATION_SET Command
[Command Class Association, Association Set]: decide which note is/nodes are to be placed in Grouping 1.

2-4 ASSOCIATION_REMOVE (V2)

ASSOCIATION_REMOVE (V2) Command
[Command Class Association, Association Remove]: decide which note is/nodes are to be excluded from Grouping 1 of Door Bell.

Note:

1. If the Door Bell is changing playing status (e.g. from NOT playing to playing), the Door Bell will report its status (SENSOR_BINARY_REPORT) to nodes of Grouping 1.

2. If battery level of Door Bell drops to an unacceptable level, the Door Bell will emit BATTERY_REPORT "Battery Level = 255 (0xFF)" to the nodes of Grouping 1.

3. Command Class

The Door Bell supports Command Classes including…

* COMMAND_CLASS_BASIC
* COMMAND_CLASS_VERSION
* COMMAND_CLASS_BATTERY
* COMMAND_CLASS_SWTICH_BINARY
* COMMAND_CLASS_SENSOR_BINARY
* COMMAND_CLASS_ASSOCIATION_V2
* COMMAND_CLASS_MANUFACTURER_SPECIFIC

Troubleshooting

Device	Symptom	Possible Cause	Recommendation
Push Button	LED indicator is not working after Button is pressed	Run out of battery power or does not fit batteries	1. Replace a new battery 2. Refit the battery with correct polarity
		Button or LED is damaged	Call to the local service for repair
		The device is not working	
Door Bell	Bell doesn't sound after Music Selector is pressed	Run out of battery power or does not fit batteries	1. Replace a new battery 2. Refit the battery with correct polarity
		The button is damaged	Call to the local service for repair
	Door Bell.exe cannot be executed	The user hasn't logged in to the Administrator	Log in to Administrator to execute the program
		Being blocked by antivirus software or firewall	Close the firewall or antivirus software

Specifications

Model No. Item	TAC06-JOEL Push Button
Battery	1.5V AAA size x 2
Range	Up to 30 m line of sight
Frequency Range	868.42 MHz

Item \ Model No.	TSE03-JOEL Door Bell
Power Adaptor	6V DC/600mA
Battery	1.5V AA size x 3
Range	Up to 30 m line of sight
Frequency Range	868.42 MHz

Specifications are subject to change without notice

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.   These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.   However, there is no guarantee that interference will not occur in a particular installation.   If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:
-     Reorient or relocate the receiving antenna.
-     Increase the separation between the equipment and receiver.
-    Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-    Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

WARNING:

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Contact your local government for information regarding the collection systems available.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

When replacing old appliances with new once, the retailer is legally obligated to take back your old appliance for disposal at least for free of charge.