## Engineering Specification

## Indoor Siren 6

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|---|---|
| Document No. | ES2018002 |
| Version | 1 |
| Description | This document mainly introduces Aeotec new generation Indoor Siren 6 based on Z-Wave. The content mainly includes its appearance, features, and software function definition. |
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| Date | 2018-10-30 |
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| Restrictions | - |

| REVISION RECORD | | | |
|---|---|---|---|
| Doc. Rev Date | By | Pages affected | Brief description of changes |
| 1          2018.10.30 | Hiking | ALL | First revision |

# Table of Content

# 1    PRODUCT INTRODUCTION

## 1.1    Abstract

Aeotec new generation Indoor Siren 6 is a smart Siren based on Z-Wave, which integrates more features.

Not only a Siren, but also can be used as a Doorbell via setting its modes.

Supporting pairing with 3 Buttons and can be controlled by 3 Buttons separately.

Built-in multiple tones, up to 30.

Designed as Multi Channel Device, including 1 Browse Endpoint, 3 Remote Endpoints, 2 Siren Endpoints, and 1 Instant Endpoint, which enhances its application scenarios.

Supports Security 2 Command Class. While a Security S2 enabled Controller is needed in order to fully use the security feature.

It can be included and operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers and/or other applications. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

## 1.2    Important safety information

Please read this and the guide(s) at support. aeotec. com/siren 6 carefully.

Failure to follow the recommendations set forth by Aeotec Limited may be dangerous or cause a violation of the law. The manufacturer, importer, distributor, and/or reseller will not be held responsible for any loss or damage resulting from not following any instruction in this guide or in other materials.

Siren 6 is intended for indoor use in dry locations only. Do not use in damp, moist, and/or wet locations.

Warning: to prevent possible hearing damage, test only when wearing appropriate hearing protection.

Contains small parts; keep away from children.

## 1.3    Special Statement

There is no Button in the box.

If you want to make your Indoor Siren 6 become a Doorbell, you need to separately purchase another product, ZW166 Button. Or purchase a set of ZW162 Doorbell 6 directly, which is with one Button inside.

The function of Indoor Siren 6 is the same as Doorbell 6, except no Button inside.

## 1.4    Quick start

The following will step you through installing Siren 6 and connecting it to your Z-Wave network.

1. Power on Siren 6 via the provided power adapter; its LED will blink slowly.

2. Affix Chime in the desired installation location using the provided mounting plate.

a. Affix the mounting plate to the selected surface using either 3×20mm screws or double-sided tape.
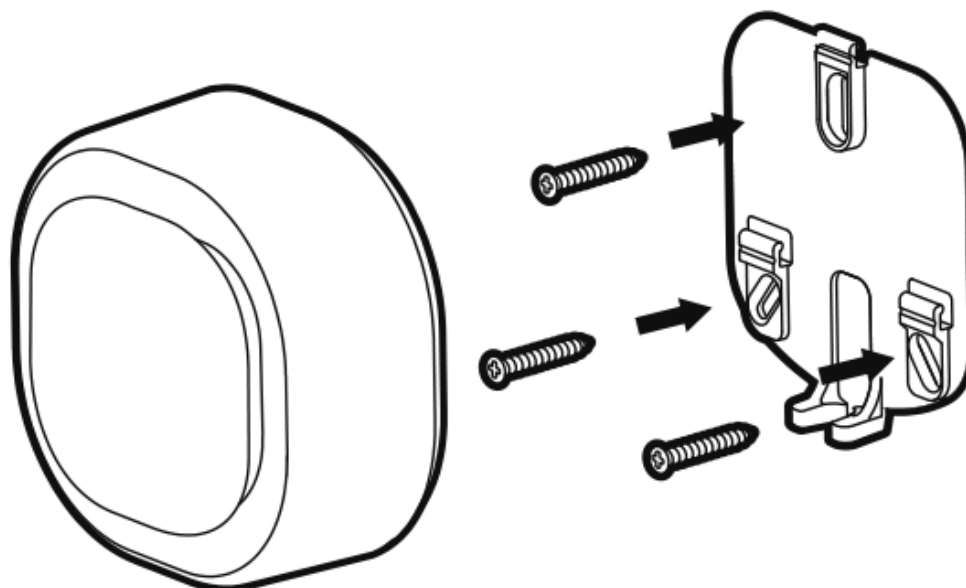
b. Lock Chime onto the mounting plate.
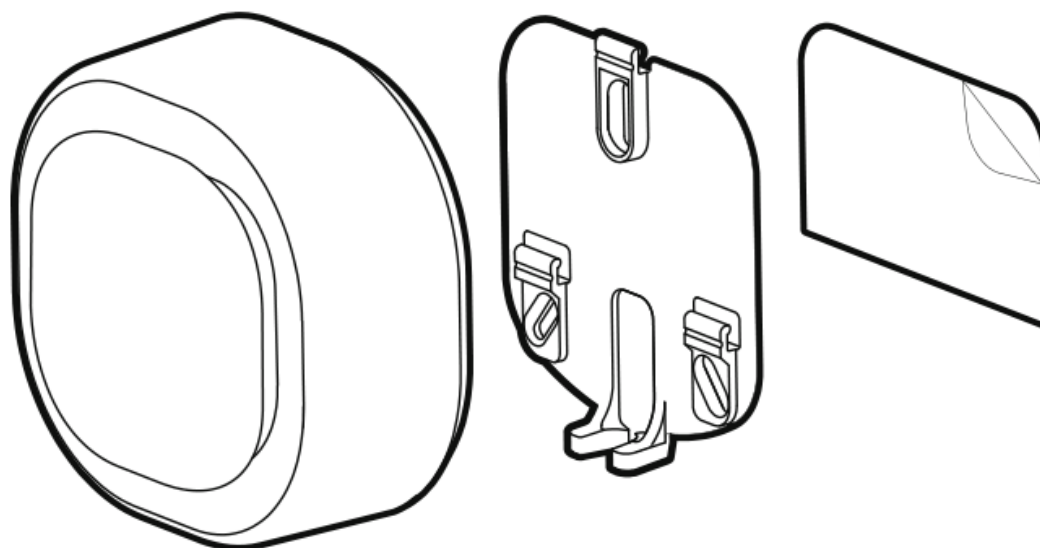
3.  Set your Z-Wave gateway into its ' add device' mode in order to connect Siren 6 to your Z-Wave system. Refer to the gateway's manual if you are unsure of how to perform this step.

4. Connect Siren 6 to your Z-Wave gateway; press the Siren 6's Action Button once. If your Z-Wave gateway supports S2 encryption, enter the first 5 digits of DSK into your gateway's interface if/when requested. The DSK is printed on Siren 6's housing.

5. When Siren 6 successfully joins your Z-Wave network, its LED will emit a solid color for 30 seconds and then turn off. Should Siren 6's LED continue to blink and t has failed to join your Z-Wave network; repeat steps 2 to 3 and please contact us for further support if needed.

Siren 6 is now a part of your Z-Wave home control system. You can configure it and its automations via your Z-Wave system; please refer to your gateway's user guide for precise instructions.

You're able to test Siren 6's speaker system manually. **Safety:** test only when wearing necessary ear protection. Siren 6's speaker emits tones up to 105dB that can cause hearing damage. To test manually, press and hold Action Button for 2 to 5 seconds.
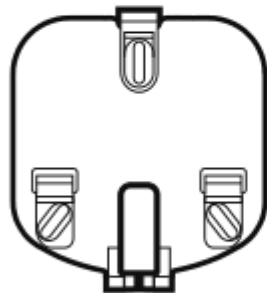
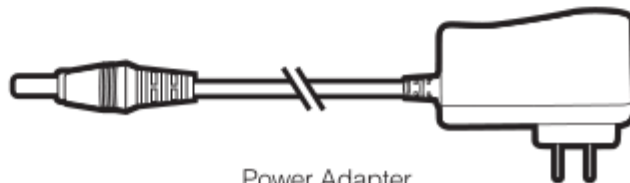## 2    PRODUCT APPEARANCE
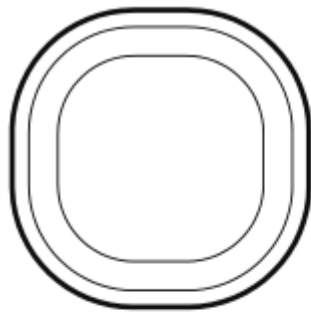




Chime-Front
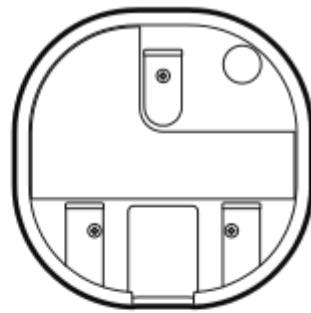
Chime-Back



Wall Mount Plate

Double-sided tape



Screws (x 3)

Power Adapter

# 3    PRODUCT FEATURES

| Parameter | Value |
|---|---|
| Product Identifier | ZW164 |
| Dimensions | 76*76*38.5mm |
| Weight | 100g |
| Color | White |
| Environmental Requirements | Operating temperature: 32° to 104° F (0° to 40° C)<br>Relative humidity: 8% to 80% |
| Wireless Technology | Z-Wave (Between Indoor Siren 6 and Gateway) ,<br>433.92Mhz FSK(Between Indoor Siren 6 and Button) |
| Z-Wave Plus | Yes |
| Z-Wave Hardware Platform | ZM5101 |
| Z-Wave Version | 6.71.03 |
| Z-Wave Library Type | Enhanced 232 Slave |
| Z-Wave Device Type | Sound Switch |
| Z-Wave Role Type | Always On Slave |
| Security Class | Non-Security, S0, S2 Unauthenticated, and S2 Authenticated |
| Smart Start Compatible | No |
| Over The Air (OTA) | Yes |
| Multi Channel Device | Yes |
| Z-Wave Antenna Distance | 30m (Indoor) /150m (Outdoor) |
| Button Control Distance | 120m (Barrier-free straight line distance ) |
| External Buttons and Connectors | Action Button (x1)<br>DC Port (x1) |
| Input Voltage | Adapter: DC 5V/2A<br>Battery: 3.7V |
| Battery | Model: PT502035<br>Capacity: 400mAh<br>Detachable: No<br>Chargeable: Yes. Charging via power adapter.<br>Endurance: 4 hours |
| Power Consumption | $I_{WORK} < 80mA$, $I_{STANDBY} < 70mA$ |
| Splash, Water, and Dust Resistant | Not Waterproof |
| Sensors | Vibration Sensor |
| Storage | 16M |
| Supported Tones | Max: 30 |
| Volume | Max: 105dB from 10cm, 7 levels adjustable |
| Tone Group | Include 1 Browse Group, 3 Remote Group, 2 Siren Group, and 1 Instant Group. |
| Supported Button | Max: 3 |
| In the Box | Indoor Siren 6 (x1)  Manual (x1) Screws (x3) Indoor Siren 6 Power adapter (x1)<br>Indoor Siren 6 wall mount plate (x1)<br>Indoor Siren 6 wall mount plate double-side tape (x1) |

# 4 SOFTWARE FUNCTION DEFINITION

## 4.1 Function Overview

| Function Item | Description |
|---|---|
| Inclusion | **When the product is out of the network:**<br>● If a controller is requesting to add a product and the product enters the Learning Mode with sending Node Info, the product will be added to the controller's network with a NodeID assigned by the controller.<br>**When the product is in the network:**<br>● If a controller in the network is requesting to add a product and the product enters the Learning Mode with sending Node Info, the product will be added to the controller's network again but the NodeID of the product will not change.<br>● If a controller in another network is requesting to add a product and the product enters the Learning Mode with sending Node Info, the product will NOT be added to the controller's network. |
| Exclusion | **When the product is out of the network:**<br>● If a controller is requesting to remove a product and the product enters the Learning Mode with sending Node Info, the product will be removed from the controller's network, and keep being out of the network.<br>**When the product is in the network:**<br>● If a controller in the network is requesting to remove a product and the product enters the Learning Mode with sending Node Info, the product will be removed from the controller's network, and become out of the network.<br>● If a controller in another network is requesting to remove a product and the product enters the Learning Mode with sending Node Info, the product will be removed from the controller's network, and become out of the network. |
| Factory Reset | ● Long press Action Button more than 20s<br>● Sending Configuration Set (Please refer to Configuration Parameter=0xFF for details) |
| Power-down Memory | Remember the configuration information after the product is powered off. |
| Tone Play | Play the built-in tone with Sound Switch Tone Play Set, Basic Set, or Configuration Set. |
| Volume Adjustment | Adjust the volume with Sound Switch Configuration Set or Configuration Set. |
| Tone Group | Include 1 Browse Group, 3 Remote Group, 2 Siren Group, and 1 Instant Group.<br>● **Browse Group:** Used for browsing the built-in tone, and can be triggered by Sound Switch Tone Play Set, Basic Set, or Configuration Set.<br>● **Remote Group:** Used for Button wireless control, and can be triggered by Sound Switch Tone Play Set, Basic Set, or Configuration Set, as well as paired Button.<br>● **Siren Group:** Cooperate with other nodes as a Siren, and can be triggered by Sound Switch Tone Play Set, Basic Set, or Configuration Set.<br>● **Instant Group:** Used for continuous playback without pause, and can be triggered by Sound Switch Tone Play Set, Basic Set, or Configuration Set. |
| Tone Group Customization | Can custom different Tone Group Parameters with Configuration Set, including Tone Index, Play Control, Play Mode, Volume, Light Effect Index, Interval Between 2 tones, Continuous Play Count, Intercept The Length Of A Tone. Tone Name can't be customized by user. |
| Pair or Remove Button | ● A Indoor Siren 6 supports up to 3 Button at the same time, while a Button can support multiple Indoor Siren 6 at the same time.<br>● **Manually quickly click Indoor Siren 6 Action Button to trigger pairing:**<br>  ✧ Click Action Button 3 times quickly will trigger pairing #1 Button.<br>  ✧ Click Action Button 4 times quickly will trigger pairing #2 Button.<br>  ✧ Click Action Button 5 times quickly will trigger pairing #3 Button.<br>  ✧ Only one Button can be paired at a time.<br>  ✧ This operation can only be used to trigger pairing, not removing. Removing Button MUST be executed by Configuration Set (Please refer to Configuration Parameter=0x24 for details)<br>● **Trigger pairing or removing with Configuration Set:**<br>  ✧ Please refer to Configuration Parameter=0x24 for details.<br>  ✧ Only one Button can be paired at a time.<br>  ✧ Multiple Buttons can be removed at a time.<br>● When pairing is triggered, user MUST manually click the Button 3 times quickly.<br>● When removing is triggered, user does not need to do anything to the Button.<br>● Pairing time is up to 10 seconds. |

<table>
<tr><td></td><td colspan="2">
●   Each successful pairing will overwrite the previously paired Button.<br>
●   If pairing or removing button succeeds, Indoor Siren 6 will quickly flash white light 3 times and then off.<br>
●   If pairing button fails, Indoor Siren 6 will slowly flash white light 3 times and then off.<br>
●   If there is a new button being paired successfully, Indoor Siren 6 will play the corresponding tone of paired button once.
</td></tr>
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## 4.2    User Behavior Interaction

| User behavior | Out of the network | | In the network | |
|---|---|---|---|---|
| | Function | Indicator Light | Function | Indicator Light |
| Power OFF | NA | OFF | NA | OFF |
| Power ON | Supply Power | When powered by battery, it will be breathing white light for 30 seconds (max). When powered by adapter, it will be breathing white light all the time. | Supply Power | White light for 2 seconds and then off. |
| Click Action Button once | Send Node Info for Inclusion | When click Action Button once, it will quickly flash white light for 30 seconds until Indoor Siren 6 is added to the network. It will become constantly bright white light after being assigned a NodeID.<br><br>If Inclusion succeeds, it will quickly flash white light 3 times and then off. If Inclusion fairs, it will slowly flash white light 3 times and then become breathing white light.<br><br>If the button is clicked again during the network access process (when it is not really in Learning Mode), the network access process will exit, at the same time the indicator light will  immediately extinguish, and then become breathing white light. | Stop playing the sound and light | Immediately OFF |
| Click Action Button 3 times quickly | Trigger pairing #1 Button | It will bright 1 time ON 0.5s OFF 1s, and then become constantly bright white light, indicating that pairing button is already started.<br><br>If pairing button succeeds, it will quickly flash white light 3 times and then become breathing white light. If pairing button fairs, it will slowly flash white light 3 times and then become breathing white light. | Trigger pairing #1 Button | It will bright 1 time ON 0.5s OFF 1s, and then become constantly bright white light, indicating that pairing button is already started.<br><br>If pairing button succeeds, it will quickly flash white light 3 times and then become breathing white light. If pairing button fairs, it will slowly flash white light 3 times and then become breathing white light. |
| Click Action Button 4 times quickly | Trigger pairing #2 Button | It will bright 2 times ON 0.5s OFF 1s, and then become constantly bright white light, indicating that pairing button is already started. | Trigger pairing #2 Button | It will bright 2 times ON 0.5s OFF 1s, and then become constantly bright white light, indicating that pairing button is already started. |

| | | | | |
|---|---|---|---|---|
| | | If pairing button succeeds, it will quickly flash white light 3 times and then become breathing white light. If pairing button fairs, it will slowly flash white light 3 times and then become breathing white light. | | If pairing button succeeds, it will quickly flash white light 3 times and then become breathing white light. If pairing button fairs, it will slowly flash white light 3 times and then become breathing white light. |
| Click Action Button 5 times quickly | Trigger pairing #3 Button | It will bright 3 times ON 0.5s OFF 1s, and then become constantly bright white light, indicating that pairing button is already started.<br><br>If pairing button succeeds, it will quickly flash white light 3 times and then become breathing white light. If pairing button fairs, it will slowly flash white light 3 times and then become breathing white light. | Trigger pairing #3 Button | It will bright 3 times ON 0.5s OFF 1s, and then become constantly bright white light, indicating that pairing button is already started.<br><br>If pairing button succeeds, it will quickly flash white light 3 times and then become breathing white light. If pairing button fairs, it will slowly flash white light 3 times and then become breathing white light. |
| Click Action Button 6 times quickly | Reserved | Reserved | Send Node Info for Exclusion | White light is on, up to 2s. If Exclusion succeeds, it will quickly flash white light 3 times and then become breathing white light. If Exclusion fairs, it will keep extinguished. |
| Long Press Action Button [1, 2s) | Reserved | Extinguished when press and release. | Reserved | Extinguished when press and release. |
| Long Press Action Button [2, 5s) | Test the sound and light of the Browse Group | White light when press, and display in the default sound and light configuration of the Browse Group when release. | Test the sound and light of the Browse Group | White light when press, and display in the sound and light configuration of the Browse Group, based on Configuration Parameter 0x02, when release. |
| Long Press Action Button [5, 10s) | Reserved | Brighter white light when press, and extinguished when release. | Reserved | Brighter white light when press, and quickly flash white light when release, indicating start to test communication quality between Indoor Siren 6 and Node 1.<br><br>At the end of the test, the white light is on for 2 seconds, then if the communication quality is Good or Great, then the white light quickly flashes 3 times and then goes out; if the communication quality is Weak, the white light slowly flashes 3 times and then goes out. |
| Long Press Action Button [10, 20s) | Reserved | Fast flashing white light when press, and extinguished when release. | Reserved | Fast flashing white light when press, and extinguished when release. |
| Long Press Action Button [20, ∞) | Factory Reset | When the time reaches 20s, the Factory Reset is performed no matter it is pressed or released. If Factory Reset succeeds, it will quickly flash white light 3 times and then become breathing white light. | Factory Reset after sending Device Reset Locally Notification Report | When the time reaches 20s, Factory Reset is performed no matter it is pressed or released. If Factory Reset succeeds, it will quickly flash white light 3 times and then become breathing white light. |

| | | | | If Factory Reset fails, it will become extinguished when release. |
|---|---|---|---|---|

## 4.3 Supplementary Explanation about Button

| Function Item | Description |
|---|---|
| Wireless Control Indoor Siren 6 | When click Button once, Button can wireless control the corresponding paired Indoor Siren 6. |
| Pairing Indoor Siren 6 | When click Button 3 times quickly, Button can pair to the Indoor Siren 6 that triggers Pairing Button Mode. |
| Sending Button Info to Indoor Siren 6 | When re-power, click Button once, or click Button 3 times quickly, Button will send its Button ID, Battery Voltage and Firmware Version to its corresponding paired Indoor Siren 6. |
| Automatic sleep | After sending Button Info to Indoor Siren 6, Button will sleep automatically for saving batter life. |
| Low battery indicator | If #1 Button is low battery, Indoor Siren 6 indicator light will repeat cycle (ON 100ms OFF 5s)<br><br>If #2 Button is low battery, Indoor Siren 6 indicator light will repeat cycle (ON 100ms OFF 100ms ON 100ms OFF 5s)<br><br>If #3 Button is low battery, Indoor Siren 6 indicator light will repeat cycle (ON 100ms OFF 100ms ON 100ms OFF 100ms ON 100ms OFF 5s)<br><br>● The low battery indicator will be activated when Indoor Siren 6 detects that the Button is low battery, and disappears after the battery returns to normal.<br>● When the battery voltage of Button is lower than 2.8V, it is judged to be low battery.<br>● When the battery voltage of Button restores to over 2.9V, it is judged to return to normal.<br>● The low battery indicator has the lowest priority among all light effects, that is, it will be displayed when there is no other light effect.<br>● The light effect of the 3 Buttons are different. When multiple Buttons is low battery at the same time, the corresponding light effect of the Button with smaller number is displayed first. |

## 4.4 Tone Group Priority Definition

(#1 Siren = #2 Siren) > (#1 Remote = #2 Remoter = #3 Remote) > (Browse = Instant)

| Rule Description | Example |
|---|---|
| A Tone Group is triggered, and the triggered Tone Group event is not released, if the other Tone Group event with lower priority than the Tone Group is triggered at this time, the Tone Group is maintained. | The #1 Siren Group is triggered and the Tone of #1 Siren Group is not stopped. At this time, if the paired #1 Button is clicked once, the Tone of the #1 Button Group will not be triggered, and the Tone of the #1 Siren Group will be maintained. |
| A Tone Group is triggered, and the triggered Tone Group event is not released, if the other Tone Group event with higher priority or the same priority than the Tone Group is triggered, it is immediately replaced by the new Tone Group. | The #1 Remote Group is triggered and the Tone of #1 Remote Group is not stopped. At this time, if the paired #2 Button is clicked once, the Tone of the #1 Remote Group will be stopped, and the Tone of the #2 Remote Group will be play immediately. |

## 4.5 SDK, Library and Device Classes

The Indoor Siren 6 application is based on:

| Parameter | Value |
|---|---|
| SDK | 6.71.03 |
| Library | Enhanced 232 slave |
| Role Type | Always On Slave (AOS) |
| Device Type | Sound Switch |
| Supported security keys | S0, S2_UNAUTHENTICATION, S2_AUTHENTICATION |

## 4.6    Announced Command Classes in NIF

The Indoor Siren 6 application implements a number of mandatory and optional command classes.

| Command Class | Version | Not added | Non-secure added | Securely added Non-secure CC | Secure CC |
|---|---|---|---|---|---|
| ZWAVEPLUS_INFO | 2 | Support | Support | Support | |
| VERSION | 2 | Support | Support | | Support |
| CONFIGURATION | 1 | Support | Support | | Support |
| MANUFACTURER_SPECIFIC | 2 | Support | Support | Support | |
| ASSOCIATION_GRP_INFO | 1 | Support | Support | | Support |
| ASSOCIATION | 2 | Support | Support | | Support |
| POWERLEVEL | 1 | Support | Support | | Support |
| MULTI_CHANNEL_ASSOCIATION | 3 | Support | Support | | Support |
| MULTI_CHANNEL | 4 | Support | Support | | Support |
| DEVICE_RESET_LOCALLY | 1 | Support | Support | Support | |
| TRANSPORT_SERVICE | 2 | Support | Support | Support | |
| SECURITY | 1 | Support | Support | Support | |
| SECURITY_2 | 1 | Support | Support | Support | |
| SUPERVISION | 1 | Support | Support | Support | |
| FIRMWARE_UPDATE_MD | 4 | Support | Support | | Support |
| NOTIFICATION | 8 | Support | Support | | Support |
| SOUND_SWITCH | 1 | Support | Support | | Support |

## 4.7    Basic Command Class mapping

Basic Set Command (value) maps to Sound Switch Tone Play Set Command (Tone Identifier).

Basic Get Command maps to Sound Switch Tone Play Get Command.

Basic Report Command maps to Sound Switch Tone Play Report Command.

## 4.8    Z-Wave Plus Info

| Parameter | Value |
|---|---|
| Z-Wave Plus Version | 1 |
| Role Type | 5 (ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAYS_ON) |
| Node Type | 0 (ZWAVEPLUS_INFO_REPORT_NODE_TYPE_ZWAVEPLUS_NODE) |
| Installer Icon Type | 0x2000 (ICON_TYPE_GENERIC_SOUND_SWITCH) |
| User Icon Type | 0x2000 (ICON_TYPE_GENERIC_SOUND_SWITCH) |

## 4.9    Manufacturer Specific

| Parameter | Value |
|---|---|
| Manufacturer ID 1 | 0x03 |
| Manufacturer ID 2 | 0x71 |
| Product Type ID 1 | EU=0x00, US=0x01, AU=0x02, CN=0x1D |
| Product Type ID 2 | 0x03 |
| Product ID 1 | 0x00 |
| Product ID 2 | 0xA4 |

## 4.10 Version

| Parameter | Value |
|---|---|
| Z-Wave Protocol Library Type | 0x03 |
| Z-Wave Protocol Version | 0x05 |
| Z-Wave Protocol Sub Version | 0x03 |
| Firmware 0 Version | ZM5101 Software Version MSB |
| Firmware 0 Sub Version | ZM5101 Software Version LSB |
| Hardware Version | 0xA4 |
| Number of firmware targets | 0x00 |

## 4.11 Multi Channel

| Parameter | Value |
|---|---|
| Individual End Points | 7 |
| Aggregated End Points | 0 |
| Dynamic | 0 |
| Identical | 1 |
| Generic Device Class | GENERIC_TYPE_AV_CONTROL_POINT |
| Specific Device Class | SPECIFIC_TYPE_SOUND_SWITCH |
| Command Classes | COMMAND_CLASS_ZWAVEPLUS_INFO<br>COMMAND_CLASS_SECURITY<br>COMMAND_CLASS_SECURITY_2<br>COMMAND_CLASS_SUPERVISION<br>COMMAND_CLASS_ASSOCIATION<br>COMMAND_CLASS_ASSOCIATION_GRP_INFO<br>COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION<br>COMMAND_CLASS_NOTIFICATION<br>COMMAND_CLASS_SOUND_SWITCH |

## 4.12 Sound Switch

(1)Sound Switch Tones Number Report Command

Supported Tones = 10 (example)

(2)Sound Switch Tone Info Report Command (example)

| Tone Identifier | Tone Duration | Name Length | Name |
|---|---|---|---|
| 1 | 0x0014 | 8 | 1AMBUL~1 |
| 2 | 0x0001 | 8 | 2ALARM~1 |
| 3 | 0x0014 | 8 | 3POLIC~1 |
| 4 | 0x003A | 8 | 4FIRE~1 |
| 5 | 0x000F | 8 | 5GASLE~1 |
| 6 | 0x0003 | 8 | 6MODER~1 |
| 7 | 0x000B | 8 | 7ELECT~1 |
| 8 | 0x0002 | 8 | 8CLASS~1 |
| 9 | 0x003C | 8 | 9ARMIN~1 |
| 10 | 0x003C | 8 | 10SECU~1 |

(3)Sound Switch Configuration Report Command

| Parameter | Valid Value | Default Value |
|---|---|---|
| Volume | 0..7 | 7 |
| Default Tone Identifier | 0..Supported Tones | 1 |

Note:

Since the tones in the Indoor Siren 6 may be changed according to customer requirements, the Supported Tones and the Tone Info may be different. However, the difference will not affect the normal use of the application.

Besides, the Default Value of Volume and Default Tone Identifier in Sound Switch Configuration Report Command will not be modified the initial defaults although the customer requests to change tones.

## 4.13 Notification

| Notification Type | | Notification Events | | Description |
|---|---|---|---|---|
| Home Security | 0x07 | State idle | 0x00 | Vibration event is inactive |
| | | Tampering, product cover removed | 0x03 | Vibration event is triggered |
| Power Management | 0x08 | State idle | 0x00 | Button's battery comes back to normal |
| | | Replace battery soon | 0x0A | Button's battery is in low battery |
| Indoor Siren 6 | 0x0E | State idle | 0x00 | Indoor Siren 6 alarm is inactive |
| | | Indoor Siren 6 active | 0x01 | Indoor Siren 6 alarm is triggered |

## 4.14 Association groups information

Backwards compatibility for non-Multi Channel devices, forces the root device AGI table to contain all the association groups mentioned in each of the endpoints AGI tables except from group 1, the Lifeline group.

Root device

| ID | Name | Node count | Profile | Function |
|---|---|---|---|---|
| 1 | Lifeline | 5 | General: Lifeline | • Send Device Reset Locally Notification when Factory Reset.<br>• Send Sound Switch Tone Play Report when Indoor Siren 6 is triggered to play tone.<br>• Send Sound Switch Configuration Report when the volume or default tone is changed.<br>• Send Configuration Report (Parameter=0x24) after finishing pairing or removing Button.<br>• Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 is triggered.<br>• Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 is inactive.<br>• Send Notification Report(Type=0x07;Event=0x03) when vibration sensor is triggered.<br>• Send Notification Report(Type=0x07;Event=0x00) when vibration sensor is inactive.<br>• Send Notification Report(Type=0x08;Event=0x0A) when Button's battery is in low battery.<br>• Send Notification Report(Type=0x08;Event=0x00) when Button's battery comes back to normal. |
| 2 | On/Off control (Browse) | 5 | Notification: Siren | Mirror of endpoint 1, group 2 |
| 3 | On/Off control (Remote 1) | 5 | Notification: Siren | Mirror of endpoint 2, group 2 |
| 4 | On/Off control (Remote 2) | 5 | Notification: Siren | Mirror of endpoint 3, group 2 |
| 5 | On/Off control (Remote 3) | 5 | Notification: Siren | Mirror of endpoint 4, group 2 |
| 6 | On/Off control (Siren 1) | 5 | Notification: Siren | Mirror of endpoint 5, group 2 |
| 7 | On/Off control (Siren 2) | 5 | Notification: Siren | Mirror of endpoint 6, group 2 |

| 8 | On/Off control (Instant) | 5 | Notification: Siren | Mirror of endpoint 7, group 2 |

## Endpoint 1

| ID | Name | Node count | Profile | Function |
|---|---|---|---|---|
| 1 | Browse via Lifeline | 0 | Notification: Siren | • Send Sound Switch Tone Play Report when Indoor Siren 6 Browse Group is triggered to paly tone.<br>• Send Sound Switch Configuration Report when the volume or default tone of Browse Group is changed.<br>• Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 Browse Group is triggered.<br>• Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 Browse Group is inactive. |
| 2 | On/Off control (Browse) | 5 | Notification: Siren | Forward the Basic Set with 0xFF to associated nodes in this group when the Indoor Siren 6 Browse Group is triggered and forward the Basic Set with 0x00 to associated nodes in this group when the Indoor Siren 6 Browse group comes back to normal. |

## Endpoint 2

| ID | Name | Node count | Profile | Function |
|---|---|---|---|---|
| 1 | Remote 1 via Lifeline | 0 | Notification: Siren | • Send Sound Switch Tone Play Report when Indoor Siren 6 #1 Remote Group is triggered to paly tone.<br>• Send Sound Switch Configuration Report when the volume or default tone of #1 Remote Group is changed.<br>• Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 #1 Remote Group is triggered.<br>• Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 #1 Remote Group is inactive.<br>• Send Notification (Type=0x08; Event=0x0A) when Indoor Siren 6 #1 Button's battery is in low battery.<br>• Send Notification (Type=0x08; Event=0x00) when Indoor Siren 6 #1 Button's battery comes back to normal. |
| 2 | On/Off control (Remote 1) | 5 | Notification: Siren | Forward the Basic Set with 0xFF to associated nodes in this group when the Indoor Siren 6 #1 Remote Group is triggered and forward the Basic Set with 0x00 to associated nodes in this group when the Indoor Siren 6 #1 Remote Group comes back to normal. |

## Endpoint 3

| ID | Name | Node count | Profile | Function |
|---|---|---|---|---|
| 1 | Remote 2 via Lifeline | 0 | Notification: Siren | • Send Sound Switch Tone Play Report when Indoor Siren 6 #2 Remote Group is triggered to paly tone.<br>• Send Sound Switch Configuration Report when the volume or default tone of #2 Remote Group is changed.<br>• Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 #2 Remote Group is triggered.<br>• Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 #2 Remote Group is inactive.<br>• Send Notification (Type=0x08; Event=0x0A) when Indoor Siren 6 #2 Button's battery is in low battery.<br>• Send Notification (Type=0x08; Event=0x00) when Indoor Siren 6 #2 Button's battery comes back to normal. |

| ID | Name | Node count | Profile | Function |
|---|---|---|---|---|
| 2 | On/Off control (Remote 2) | 5 | Notification: Siren | Forward the Basic Set with 0xFF to associated nodes in this group when the Indoor Siren 6 #2 Remote Group is triggered and forward the Basic Set with 0x00 to associated nodes in this group when the Indoor Siren 6 #2 Remote Group comes back to normal. |

## Endpoint 4

| ID | Name | Node count | Profile | Function |
|---|---|---|---|---|
| 1 | Remote 3 via Lifeline | 0 | Notification: Siren | • Send Sound Switch Tone Play Report when Indoor Siren 6 #3 Remote Group is triggered to paly tone.<br>• Send Sound Switch Configuration Report when the volume or default tone of #3 Remote Group is changed.<br>• Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 #3 Remote Group is triggered.<br>• Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 #3 Remote Group is inactive.<br>• Send Notification (Type=0x08; Event=0x0A) when Indoor Siren 6 #3 Button's battery is in low battery.<br>• Send Notification (Type=0x08; Event=0x00) when Indoor Siren 6 #3 Button's battery comes back to normal. |
| 2 | On/Off control (Remote 3) | 5 | Notification: Siren | Forward the Basic Set with 0xFF to associated nodes in this group when the Indoor Siren 6 #3 Remote Group is triggered and forward the Basic Set with 0x00 to associated nodes in this group when the Indoor Siren 6 #3 Remote Group comes back to normal. |

## Endpoint 5

| ID | Name | Node count | Profile | Function |
|---|---|---|---|---|
| 1 | Siren 1 via Lifeline | 0 | Notification: Siren | • Send Sound Switch Tone Play Report when Indoor Siren 6 #1 Siren Group is triggered to paly tone.<br>• Send Sound Switch Configuration Report when the volume or default tone of #1 Siren Group is changed.<br>• Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 #1 Siren Group is triggered.<br>• Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 #1 Siren Group is inactive. |
| 2 | On/Off control (Siren 1) | 5 | Notification: Siren | Forward the Basic Set with 0xFF to associated nodes in this group when the Indoor Siren 6 #1 Siren Group is triggered and forward the Basic Set with 0x00 to associated nodes in this group when the Indoor Siren 6 #1 Siren Group comes back to normal. |

## Endpoint 6

| ID | Name | Node count | Profile | Function |
|---|---|---|---|---|
| 1 | Siren 2 via Lifeline | 0 | Notification: Siren | • Send Sound Switch Tone Play Report when Indoor Siren 6 #2 Siren Group is triggered to paly tone.<br>• Send Sound Switch Configuration Report when the volume or default tone of #2 Siren Group is changed.<br>• Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 #2 Siren Group is triggered.<br>• Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 #2 Siren Group is inactive. |
| 2 | On/Off control (Siren 2) | 5 | Notification: Siren | Forward the Basic Set with 0xFF to associated nodes in this group when the Indoor Siren 6 #2 Siren Group is triggered and forward the Basic Set with 0x00 to |

| | | | | associated nodes in this group when the Indoor Siren 6 #2 Siren Group comes back to normal. |
|---|---|---|---|---|

Endpoint 7

| ID | Name | Node count | Profile | Function |
|---|---|---|---|---|
| 1 | Instant via Lifeline | 0 | Notification: Siren | • Send Sound Switch Tone Play Report when Indoor Siren 6 Instant Group is triggered to paly tone.<br>• Send Sound Switch Configuration Report when the volume or default tone of Instant Group is changed.<br>• Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 Instant Group is triggered.<br>• Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 Instant Group is inactive. |
| 2 | On/Off control (Instant) | 5 | Notification: Siren | Forward the Basic Set with 0xFF to associated nodes in this group when the Indoor Siren 6 Instant Group is triggered and forward the Basic Set with 0x00 to associated nodes in this group when the Indoor Siren 6 Instant Group comes back to normal. |

## 4.15  Configuration

| Param. | Description | W/R | Default | Size |
|---|---|---|---|---|
| 0x02 (2) | **Set or Get Browse Group** | WR | 0x0C070000 | 4 |

| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|---|
| Tone Index | | | | | Play Control | | |
| Reserved | | | | Volume | | | |
| Reserved | | | | | Light Effect Index | | |
| Play Mode | | | | | | | |

**Tone Index (Max=Supported Tones)**

| Value | Description |
|---|---|
| 0 | Reserved |
| 1..Max | Set the default tone |
| Other | Reserved |
| 31 | Keep the previous configuration |

**Play Control**

| Value | Description |
|---|---|
| 0 | Set but not play |
| 1 | Play |
| 2 | Stop |
| 3 | Previous (In this case, Tone Index MUST be equal to 31) |
| 4 | Next (In this case, Tone Index MUST be equal to 31) |
| 5 | Reserved |
| 6 | Reserved |
| 7 | Keep the previous configuration |

**Volume**

| Value | Description |
|---|---|
| 0 | Mute |
| 1..7 | 1 is the minimum volume, 7 is the max volume. |
| 8..14 | Reserved |
| 15 | Keep the previous configuration |

**Light Effect Index**

| Value | Description |
|---|---|
| 0..6 | Select the specified Light Effect, the Light Effect can be configured by parameter 0x0A-0x10 |
| 7 | Keep the previous configuration |

**Play Mode**

| Value | Description |
|---|---|
| 0 | Single No Loop Play |
| 1 | Single Loop Play |
| 2 | List Loop Play |
| 3 | List Random Play |
| 4..254 | Reserved |
| 255 | Keep the previous configuration |

Note:
Tone Index maps to the Default Tone Identifier of Sound Switch Configuration Set CC. Volume maps to the Volume of Sound Switch Configuration Set CC.

| Param. | Description | W/R | Default | Size |
|---|---|---|---|---|
| 0x03 (3) | **Set or Get #1 Remote Group** | WR | 0x31070914 | 4 |

| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|---|
| Tone Index | | | | | Play Control | | |
| Interval Between 2 Tones | | | | Volume | | | |
| Continuous Play Count | | | | | Light Effect Index | | |
| Intercept The Length Of A Tone | | | | | | | |

**Tone Index (Max=Supported Tones)**

| Value | Description |
|-------|-------------|
| 0 | Reserved |
| 1..Max | Set the default tone |
| Other | Reserved |
| 31 | Keep the previous configuration |

**Control**

| Value | Description |
|-------|-------------|
| 0 | Set but not play |
| 1 | Play |
| 2 | Stop |
| 3..6 | Reserved |
| 7 | Keep the previous configuration |

**Volume**

| Value | Description |
|-------|-------------|
| 0 | Mute |
| 1..7 | 1 is the minimum volume, 7 is the max volume. |
| 8..14 | Reserved |
| 15 | Keep the previous configuration |

**Interval Between 2 Tones**

| Value | Description |
|-------|-------------|
| 0 | Not stopping |
| 1..14 | 1-14 seconds, the interval time between 2 tones |
| 15 | Keep the previous configuration |

**Light Effect Index**

| Value | Description |
|-------|-------------|
| 0..6 | Select the specified Light Effect, the Light Effect can be configured by parameter 0x0A-0x10 |
| 7 | Keep the previous configuration |

**Continuous Play Count**

| Value | Description |
|-------|-------------|
| 0 | Continuous Play |
| 1..30 | 1-30 times, the count that the tone will be repeated to be played |
| 31 | Keep the previous configuration |

**Intercept The Length Of A Tone**

| Value | Description |
|-------|-------------|
| 0 | The Length Of A Tone Itself. |
| 1..254 | 1-254 seconds, Intercept The Length Of A Tone. Actual Single Play Time is equal to the smaller value between The Length Of A Tone Itself and Intercept The Length Of A Tone. |
| 255 | Keep the previous configuration |

Note:
Tone Index maps to the Default Tone Identifier of Sound Switch Configuration Set CC. Volume maps to the Volume of Sound Switch Configuration Set CC.

Total Tone Playback Time = Continuous Play Count x ( Actual Single Play Time + Interval Between 2 Tones )

| 0x04 (4) | Set or Get #2 Remote Group | WR | 0x39070914 | 4 |
|----------|----------------------------|----|-----------|---|

| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|---|
| Tone Index | | | | | Play Control | | |
| Interval Between 2 Tones | | | | Volume | | | |
| Continuous Play Count | | | | | Light Effect Index | | |
| Intercept The Length Of A Tone | | | | | | | |

Note:
The valid values can be referenced to the definition of parameter 0x03.

| 0x05 (5) | Set or Get #3 Remote Group | | | | | | | | WR | 0x41070914 | 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | | | |
| | Tone Index | | | | | Play Control | | | | | |
| | Interval Between 2 Tones | | | | Volume | | | | | | |
| | Continuous Play Count | | | | | Light Effect Index | | | | | |
| | Intercept The Length Of A Tone | | | | | | | | | | |

Note:
The valid values can be referenced to the definition of parameter 0x03.

| 0x06 (6) | Set or Get #1 Siren Group | | | | | | | | WR | 0x11070A14 | 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | | | |
| | Tone Index | | | | | Play Control | | | | | |
| | Interval Between 2 Tones | | | | Volume | | | | | | |
| | Continuous Play Count | | | | | Light Effect Index | | | | | |
| | Intercept The Length Of A Tone | | | | | | | | | | |

Note:
The valid values can be referenced to the definition of parameter 0x03.

| 0x07 (7) | Set or Get #2 Siren Group | | | | | | | | WR | 0x19070A14 | 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | | | |
| | Tone Index | | | | | Play Control | | | | | |
| | Interval Between 2 Tones | | | | Volume | | | | | | |
| | Continuous Play Count | | | | | Light Effect Index | | | | | |
| | Intercept The Length Of A Tone | | | | | | | | | | |

Note:
The valid values can be referenced to the definition of parameter 0x03.

| 0x08 (8) | Set or Get Instant Group | | | | | | | | WR | 0x51070314 | 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | | | |
| | Tone Index | | | | | Play Control | | | | | |
| | Interval Between 2 Tones | | | | Volume | | | | | | |
| | Continuous Play Count | | | | | Light Effect Index | | | | | |
| | Intercept The Length Of A Tone | | | | | | | | | | |

Note:
The valid values can be referenced to the definition of parameter 0x03.
The valid values of Interval Between 2 Tones are only 0 and 15.
The valid values of Continuous Play Count are only 0 and 31.

| 0x0A (10) | Set or Get Light Effect Index 0 | | | | | | | | WR | 0x96321403 | 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | | | |
| | Brighten Duration | | | | | | | | | | |
| | Dim Duration | | | | | | | | | | |
| | Light ON Duration | | | | | | | | | | |
| | Light OFF Duration | | | | | | | | | | |

**Brighten Duration**
The time from Light OFF to Light ON. (Unit = 10ms)

**Dim Duration**
The time from Light ON to Light OFF. (Unit = 10ms)

**Light On Duration**
The time of Light ON. (Unit = 100ms)

**Light Off Duration**
The time of Light OFF. (Unit = 100ms)

Note:
Total Light Effect Time = Brighten + Dim + Light ON + Light OFF

| 0x0B (11) | Set or Get Light Effect Index 1 | WR | 0x64640003 | 4 |
|---|---|---|---|---|
| | Note: The valid values can be referenced to the definition of parameter 0x0A | | | |

| 0x0C | Set or Get Light Effect Index 2 | WR | 0x00420103 | 4 |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| (12) | Note:<br>The valid values can be referenced to the definition of parameter 0x0A | R | | |
| 0x0D<br>(13) | Set or Get Light Effect Index 3<br>Note:<br>The valid values can be referenced to the definition of parameter 0x0A | WR | 0x42000003 | 4 |
| 0x0E<br>(14) | Set or Get Light Effect Index 4<br>Note:<br>The valid values can be referenced to the definition of parameter 0x0A | WR | 0x0000000A | 4 |
| 0x0F<br>(15) | Set or Get Light Effect Index 5<br>Note:<br>The valid values can be referenced to the definition of parameter 0x0A | WR | 0x00000A00 | 4 |
| 0x10<br>(16) | Set or Get Light Effect Index 6<br>Note:<br>The valid values can be referenced to the definition of parameter 0x0A | WR | 0x42000001 | 4 |
| 0x11<br>(17) | Set or Get the volume of vibration sensor alarm<br><table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>Mute</td></tr><tr><td>1-7</td><td>1 is the minimum volume, 7 is the max volume</td></tr><tr><td>Other</td><td>Reserved</td></tr></table> | WR | 7 | 1 |
| 0x20<br>(32) | Communication Quality Report (REPORT ONLY)<br><table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>Weak</td></tr><tr><td>15</td><td>Good</td></tr><tr><td>255</td><td>Great</td></tr><tr><td>Other</td><td>Reserved</td></tr></table><br>Note:<br>Can be used to confirm the communication quality between Siren and Node 1. The function will be activated after long pressing Action Button for 5 seconds. | NA | - | 1 |
| 0x21<br>(33) | Get the information of #1 Button (GET ONLY)<br><table><tr><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th><th>0</th></tr><tr><td colspan="8">Button Pairing State</td></tr><tr><td colspan="8">Button Battery Voltage MSB</td></tr><tr><td colspan="8">Button Battery Voltage LSB</td></tr><tr><td colspan="8">Button Firmware Version</td></tr></table><br>**Button Pairing State**<br><table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>Unpaired</td></tr><tr><td>1</td><td>Paired</td></tr><tr><td>Other</td><td>Reserved</td></tr></table><br>**Button Battery Voltage MSB & LSB**<br><table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>Unpaired</td></tr><tr><td>1-66634</td><td>The Unit of Battery Voltage is mV</td></tr><tr><td>65535</td><td>Low power</td></tr></table><br>**Button Firmware Version**<br><table><tr><th>Bit</th><th>Description</th></tr><tr><td>Bit 0~3</td><td>The LSB of Button Firmware Version</td></tr><tr><td>Bit 4~7</td><td>The MSB of Button Firmware Version</td></tr></table><br>For example, if Button Firmware Version equals to 0x10, it means V1.00.<br>Note:<br>This parameter does not restore the default value when remove from the network or reset the factory settings. | R | - | 4 |
| 0x22<br>(34) | Get the information of #2 Button<br>Note:<br>The valid values can be referenced to the definition of parameter 0x21 | R | - | 4 |
| 0x23<br>(35) | Get the information of #3 Button<br>Note:<br>The valid values can be referenced to the definition of parameter 0x21 | R | - | 4 |

| 0x24 (36) | Pair or Remove the Button | WR | - | 1 |
|---|---|---|---|---|

| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|---|
| Pairing Control | | | | Button Number Bit Mask | | | |

**Set:**
**Pairing Control (4 bits)**

| Value | Description |
|---|---|
| 0 | Remove Button |
| 1 | Pair Button |
| Other | Reserved |

**Button Number Bit Mask(4 bits)**

| Bit | Description |
|---|---|
| Bit 0 | #1 Button |
| Bit 1 | #2 Button |
| Bit 2 | #3 Button |
| Bit 3 | Reserved |

If want to Pair or Remove the specified Button, the sending node MUST set the corresponding bit of Button to 1.

Only one Button can be paired at a time. The node will ignore commands which want to pair multiple Buttons at the same time.

Multiple Buttons can be removed at a time.

**Get:**
Can be used to request which Buttons has been paired after finishing pairing or removing button.

**Report:**
When pairing button is started, Indoor Siren 6 will automatically report 0x24 once to notify which Button is waiting for pair. At this moment, the Pairing Control is equal to 1, and the corresponding bit of Button is equal to 1.

When pairing button is finished, Indoor Siren 6 will automatically report 0x24 once to notify which Buttons has been paired. At this moment, the Pairing Control is equal to 2, and the corresponding bit of Button which has been paired is equal to 1 while the corresponding bit of Button which has NOT been paired is equal to 0.

When removing button is finished, Indoor Siren 6 will automatically report 0x24 once to notify which Buttons has been removed. At this moment, the Pairing Control is equal to 2, and the corresponding bit of Button which has been paired is equal to 1 while the corresponding bit of Button which has NOT been paired is equal to 0.

Note:
When pairing button is started, Indoor Siren 6 will always bright white light. Pairing time is up to 10 seconds.

When pairing button is finished, If there is a new button being paired successfully, the Indoor Siren 6 will play the corresponding tone of paired button once.

When removing button is finished, Indoor Siren 6 will flash white light 3 times.

This parameter does not restore the default value when remove from the network or reset the factory settings.

| 0xFF (255) | Reset to factory default setting OR remove from the Z-Wave network (SET ONLY) If Size=4, Default=1, Value=0x55555555, then Reset to factory default setting (except 0x21/0x22/0x23/0x24) and remove from the Z-Wave network. | W | - | 4 |
|---|---|---|---|---|
| | Reset to factory default setting (except 0x21/0x22/0x23/0x24) | W | - | 1 |