SR-15ZBS Wireless Indoor Siren

Introduction

SR-15ZBS is a ZigBee wireless Indoor Siren. It is capable of raising alarm upon receiving alarm signal from the coordinator in the ZigBee network when an alarm is activated. During the alarm, the Indoor Siren will sound alarm with its built-in siren and also flash the strobe light to attract attention.

The Indoor Siren utilizes ZigBee technology for wireless signal transmission. ZigBee is a wireless communication protocol that is reliable and has low power consumption and high transmission efficiency. Based on IEEE802.15.4 standard, ZigBee allows a large amount of devices to be included in a network and coordinated for data exchange and signal transmission

The Indoor Siren Serves as an end device in the ZigBee network. It can be included in the ZigBee network to receive alarm signal, but cannot permit any other ZigBee device to join the network through the Indoor Siren.

Parts Identification

1. Mounting Holes X 4

2. Battery Compartment

The Indoor Siren is powered by four 1.5V D-cell alkaline battery.

3. Function Switch Block

The 1-3 DIP Switches can be turned ON/OFF to determine Alarm Length, please see later section.
The DIP Switches 5-7 are reserved.

4. Function Button

5. Red LED

The LED indicator lights up in the following conditions:
- Continuous quick flashes
  The Indoor Siren is alarming.
- Two quick flashes
  The Indoor Siren has successfully joined a ZigBee network.
- Flashes once every 20 minutes:
  The Indoor Siren has lost connection to its current ZigBee network.

The LED also flashes differently according to Siren status (with different siren audio), please refer to the following table:

	Siren Audio	LED Indication
Arm	1 beep	1 flash
Home	1 beep	1 flash
Disarm	2 beeps	2 flashes
Arm(Low Battery)	3 beeps	3 flashes
Home(Low Battery)	3 beeps	3 flashes
Disarm (Low Battery)	4 beeps	4 flashes
Arm (Tamper)	5 beeps	5 flashes
Home (Tamper)	5 beeps	5 flashes
Disarm (Tamper)	6 beeps	6 flashes

6. Tamper Switch

The Tamper switch will be activated when the Indoor Siren is removed from the mounted surface or has its cover opened.
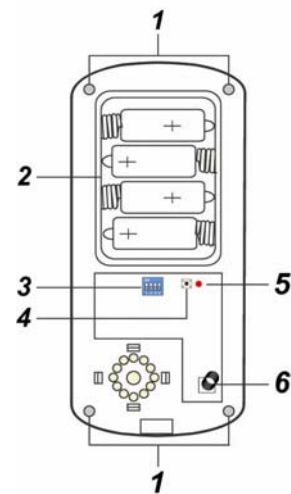
Features

- ### *Alarm Activation*

  When an alarm is activated, the Indoor Siren will activate its siren and LED light according to different alarm types:
  - Burglar and Emergency alarm: Continuous alarm and LED flash
  - Fire alarm: 2-second alarm with1-second interval and continuous LED flash

- ### *Alarm Length Setting*
  - When the Indoor Siren receives an alarm signal via ZigBee network, it will activate alarm according to the alarm length set by the system control panel.
  - If the Indoor Siren receives an alarm signal, but the alarm length duration is not defined by the system control panel, the Indoor Siren will activate alarm according to Dip Switch setting:

SW1	SW2	SW3	SW4	Siren Duration
ON	OFF	OFF	OFF	3 minutes
OFF	ON	OFF	OFF	5 minutes
ON	ON	OFF	OFF	10 minutes

- ### *Battery and Low Battery Detection*

  The Indoor Siren uses four 1.5V alkaline D-cell batteries as its power source. The battery is included in the package. Open the battery compartment then insert the batteries to power up the Indoor Siren.

  The Indoor Siren features Low Battery Detection function. When the battery voltage is low, the Indoor Siren will transmit Low Battery signal to the coordinator in ZigBee network.

  When changing battery, after removing the old battery, press the Tamper Switch twice to fully discharge before inserting new battery

- ### *Tamper Protection*

  The Indoor Siren is protected by a tamper switch which is compressed against the front cover when the cover is closed. Whenever the Indoor Siren front cover is opened, the tamper switch will be activated. The Indoor Siren will send a tamper open signal to system control panel and activate alarm immediately according to duration set by the Dip Switches.

- ### *Supervision*

  The Indoor Siren will transmit a supervision signal to report its condition regularly according to user setting. The factory default interval is 30 minutes. The user can also press the Function Button once to transmit a supervision signal manually.

ZigBee Network Setup

- ### *ZigBee Device Guideline*

  ZigBee is a wireless communication protocol that is reliable and has low power consumption and high transmission efficiency. Based on IEEE802.15.4 standard, ZigBee allows a large amount of devices to be included in a network and coordinated for data exchange and signal transmission.

  Due to the fundamental structure of ZigBee network, ZigBee device will actively seek and join network after powering on. Since performing a task in connecting network may consume some power, it is required to follow the instructions to avoid draining battery of a ZigBee device
  - Ensure your ZigBee network router or coordinator is powered on before inserting battery into the ZigBee device.
  - Ensure the ZigBee network router or coordinator is powered on and within range while a ZigBee device is in use.
  - Do not remove a ZigBee device from the ZigBee network router or coordinator without removing the battery from a ZigBee device.

- ### *Joining the ZigBee Network*

  As a ZigBee device, the Indoor Siren needs to join a ZigBee network to send and receive alarm signal. Please follow the steps bellow to join the Indoor Siren into the ZigBee network. **Joining ZigBee network is only allowed during the first 3 minutes of powering up the Siren. If the Siren has been powered on for more than 3 minutes, please remove and reinsert power to power on Siren again.**
  1. Insert the batteries.
  2. Press and hold the function button for 10 seconds **within 3 minutes after powering up the Siren** then release to join ZigBee network. Please make sure the permit-to-join feature on the

router or coordinator of your ZigBee network is enabled.

3. If the Siren successfully joins a ZigBee network, the LED Indicator will flash twice to confirm.
4. After joining the ZigBee network, the Indoor Siren will be registered in the security system in the network automatically. Please check the security system control panel or CIE (Control and Indicating Equipment) to confirm if joining and registration is successful.
5. After joining the ZigBee network, if the Indoor Siren loses connection to the current ZigBee network, the LED indicator will flash every 20 minutes. Please check your ZigBee network condition and Indoor Siren signal range to correct the condition.

● *Factory Reset*

If you want to remove the Indoor Siren from current network and join a new network, you need to use the Factory Reset function to clear the Indoor Siren for its stored setting and actively search for a ZigBee network. To perform Factory Reset:

1. Press and hold the function button for 10 seconds, then release the button **within 3 minutes after powering up the Bellbox**.
2. The Indoor Siren has been reset to factory default setting with all its previous network information removed. It will now actively search for available ZigBee network again and join the network automatically.
3. If the Indoor Siren successfully joins a ZigBee network, the LED will flash twice to indicate.

Installation

● *Installation Guideline*

- The Indoor Siren is designed to be mounted on a flat surface with fixing screws and plugs provided.
- The base has 4 mounting holes for you to screw the Indoor Siren onto the wall.

● *Mounting the Indoor Siren*

1. Use the 4 mounting holes as template, drill holes on the wall.
2. Insert the wall plugs if fixing it into plaster or brick.
3. Screw the base into the wall plugs.
4. Screw the cover back onto its base.

● *Using Indoor Siren with ZigBee Router*

IMPORTANT NOTE

If the Indoor Siren installation location is away from your system control panel and requires ZigBee routers to improve signal strength. **DO NOT** use a ZigBee Router without backup battery. A ZigBee router without battery will be powered down during AC power failure and the Indoor Siren connected to the router will lose connection with ZigBee network. You should plan your Indoor Siren installation location using only ZigBee router with backup battery.

Appendix

(The Appendix information is for developers only.)

● *Indoor Siren Cluster ID*

Device ID: IAS Warning Device: 0x0403 Endpoint: 0x01	
Server Side	**Client Side**
Mandatory	
Basic (0x0000)	*None*
Identify(0x0003)	
IAS Zone(0x0500)	
IAS WD(0x0502)	
Optional	
None	*None*

● *Attribute of Basic Cluster Information*

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional

0x0000	*ZCLVersion*	Unsigned 8-bit integer	0x00 –0xff	Read only	0x01	M
0x0001	ApplicationVersion	Unsigned 8-bit integer	0x00 – 0xff	Read only	0x00	O
0x0003	*HWVersion*	Unsigned 8-bit integer	0x00 –0xff	Read only	0	O
0x0004	*ManufacturerName*	Character String	0 – 32 bytes	Read only	Climax Technology	O
0x0005	*ModelIdentifier*	Character String	0 – 32 bytes	Read only	(Model Version)	O
0x0006	*DateCode*	Character String	0 – 16 bytes	Read only		O
0x0007	*PowerSource*	8-bit	0x00 –0xff	Read only		M
0x0010	*LocationDescription*	Character String	0 – 32 bytes	Read / Write		O
0x0011	*PhysicalEnvironment*	8-bit	0x00 –0xff	Read / Write	0x00	O
0x0012	*DeviceEnabled*	Boolean	0x00 –0x01	Read / Write	0x01	M

- ### *Attribute of Identify Cluster Information*

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	*IdentifyTime*	Unsigned 16-bit integer	0x00 –0xffff	Read / Write	0x0000	M

- ### *Attribute of IAS Zone Cluster Information*

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0001	*ZoneState*	8-bit Enumeration	All	Read only	0x00	M
0x0002	*ZoneType*	8-bit Enumeration	All	Read only		M
0x0003	*ZoneStatus*	16-bit bitmap	All	Read only	0x00	M
0x0010	*IAS_CIE_ADDRESS*	IEEE ADDRESS	Valid 64bit IEEE address	Read / Write		M
0x0011	*ZONE_ID*	Unsigned 8-bit integer	All	Read only	0xFF	M

- ### *Attribute of IAS WD Cluster Information*

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	MaxDuration	Unsigned 16-bit integer	0x00 –0xfffe	Read / Write	240	M

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.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

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

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

This device complies with Part 15 of the FCC Rules & Industry Canada licence-exempt RSS-210 standard. 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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.