

SR-32ZBS Wireless Indoor Siren

Introduction

SR-32ZBS is a ZigBee 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 Siren will sound alarm with its built-in siren to attract attention.

The 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 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 Siren.

Parts Identification

1. Tamper Switch

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

2. Battery Compartment

The Siren is powered by two 1.5V D-Cell alkaline battery.

3. Battery Switch

The battery switch is used when battery is installed in the Indoor Siren. To power on/off the Indoor Siren, switch the ON/OFF button.

4. Mounting Holes x 3

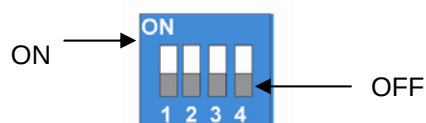
5. Function Button

- Press the button once to send a supervision signal.
- Press and hold the button for 10 seconds then release to reset the Siren.

6. Alarm Length Dip Switches

The Dip Switches contain 4 switches which can be set to either ON or Off position

DIP Switch 1&2 can be turned ON/OFF to determine Alarm Length. DIP Switches 3&4 are reserved.



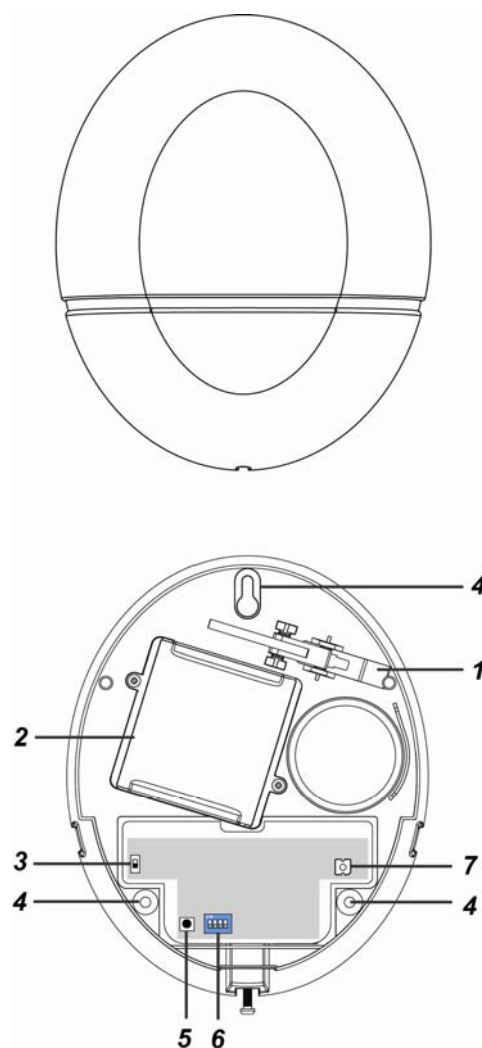
7. LED Indicator

LED flashes twice:

- The Siren has successfully joined the ZigBee network.

LED flashes every 20 minutes:

- The Siren has lost connection to its current ZigBee network.



Features

● **Siren Audio & LED Indicator**

Refer to below table for LED and siren beep for status indication.

	Siren Audio	LED indication
Lost connection to current network	None	LED flashes every 20 minutes
Joining ZigBee Network	None	LED flashes twice
Arm	1 long beep	None
Home	1 long beep	None
Disarm	2 short beeps	None
Arm (Tamper Fault)	5 long beeps	None
Home (Tamper Fault)	5 long beeps	None
Disarm (Tamper Fault)	5 short beeps	None
Arm (Low Battery)	3 long beeps	None
Home (Low Battery)	3 long beeps	None
Disarm (Low Battery)	3 short beeps	None

● **Alarm Activation**

When an alarm is activated, the Siren will activate its buzzer according to different alarm type:

- Burglar and Emergency alarm: Continuous alarm.
- Fire alarm: 2-second alarm with 1-second interval.

● **Alarm Length Setting**

When the Siren receives an alarm signal via ZigBee network, it will activate siren and LED light on according to the alarm length set by the system control panel.

If the Siren receives an alarm signal, but the alarm length duration is not defined by the system control panel, the Siren will activate alarm according to Dip Switch setting below:

SW1	SW2	Siren Duration
OFF	OFF	3 minutes (Default)
ON	OFF	3 minutes
OFF	ON	5 minutes
ON	ON	10 minutes

● **Battery and Low Battery Detection**

The Siren uses four 1.5V alkaline D-cell batteries as its power source. With the battery, use the battery switch to power on/off the Siren manually.

The Siren features Low Battery Detection function. When the battery voltage is low, the 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 Siren is protected by a tamper switch which is compressed against the mounting surface when mounted. Whenever the Siren is removed from mounted location, or its cover opened, the tamper switch will be activated and the Siren will send a tamper open signal to remind the user of the condition and activate an alarm immediately. The alarm length of tamper alarm is determined by the Dip Switch setting above. The Siren Tamper can be disabled when bypassed using Control Panel Edit Device function to avoid alarming when opening the cover during mounting process. The Siren Tamper can be manually restored by disabling the bypass function on the Control Panel or it will automatically restore if bypass is not cleared after 1 hour.

● **Supervision**

The 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 Siren needs to join a ZigBee network to send and receive alarm signal. Please follow the steps below to join the Siren into the ZigBee network.

1. Insert the batteries. Use the battery switch to power on the Siren.
2. Press and hold the Function button for 10 seconds, the LED will flash to indicate. Then release to join ZigBee network. Please make sure to enable the permit-join feature on the router or coordinator of your ZigBee network
3. After joining the ZigBee network, the 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.
4. After joining the ZigBee network, if the Siren loses connection with current ZigBee network, the LED will flash every 20 minutes to indicate the situation. Please check your ZigBee network condition and Siren signal transmission range to correct the problem.

● **Removing Device from ZigBee Network (Factory Reset)**

To remove the Siren from current ZigBee network, the device must be put to Factory Reset to complete device removal. Factory Reset function will clear the Siren of its stored setting information and prompt the device to search for new ZigBee network.

Before removing device, make sure the Siren is within current ZigBee network signal range

1. Press and hold the function button for 10 seconds, then release the button to reset Siren.
2. Upon reset, the Siren will clear current ZigBee network setting and transmit signal to ZigBee coordinator to remove itself from current ZigBee network. It will then actively search for available ZigBee network again and join the network automatically.

Installation

● **Installation Guideline**

- The Siren is designed to be mounted on a flat surface with fixing screws and plugs provided.
- The base has 3 mounting holes for you to screw the Siren onto the wall.

● **Mounting the Siren**

1. Bypass the Siren using the Control Panel's Edit Device function (refer to the Control Panel instruction manual). The siren will sound a beep to indicate the tamper switch is now disabled.
2. Find the location where the Bellbox is to be mounted.
3. Remove the Top cover by releasing the bottom screw using a Philips screwdriver and pulling the outer case out carefully.
4. Hold the Siren at the position where it will be mounted.
5. Check whether Siren has a strong enough signal with the Control Panel by putting the Control Panel into Walk Test mode (please refer to Control Panel manual). Press the Function Button check whether the signal is strong enough (please refer to Control Panel manual for signal strength).
6. If you are satisfied with the signal strength, remove the Siren from mounting location.
7. Identify the 3 mounting holes, mount and fix the Siren on the wall using the large screws and wall plugs provided. Secure the screws using a Philips screwdriver. Make sure the Tamper Switch is fully depressed against the wall.

<NOTE>

- The tamper switch is secured with a button at the back of the base. When the siren is pulled off from the wall, button will be released, the alarm will be activated. Ensure the button is fully depressed when the siren is mounted. If there is a gap, pack with a suitable spacing material.

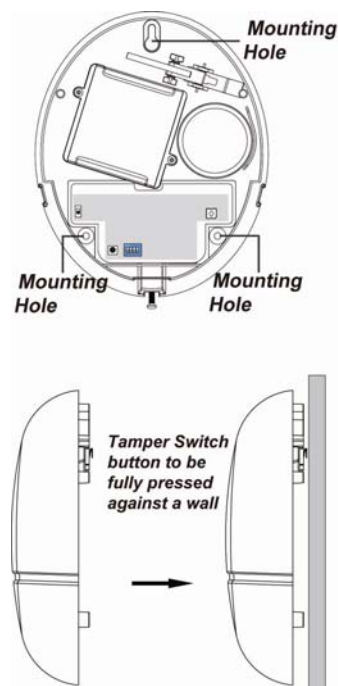
- Replace the Top cover by hooking the top of the Top cover onto the top of the base. Push the bottom of the Top cover onto the base and tighten the bottom screw using a Philips screwdriver.
- Clear Bypass function to enable Siren Tamper function on the Control Panel (Please refer to the Control Panel instruction manual). If not cleared, the tamper function will be restored automatically after 1 hour.

Make sure the Bypass function is restored otherwise:

1. The Siren will not sound warning when an alarm is trigger by Control Panel.

2. The Siren will only sound its own tamper alarm but it cannot receive disarm command from panel because it is bypassed.

- Check if the installation is successful by testing from the Control Panel by arming and disarming function.
- The installation is now completed.



● Using Siren with ZigBee Router

IMPORTANT NOTE

If the 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 Siren connected to the router will lose connection with ZigBee network. You should plan your Siren installation location using only ZigBee router with backup battery.

Appendix

(The Appendix information is for developers only.)

● 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	<i>DateCode</i>	Character String	0 – 16 bytes	Read only		O
0x0007	<i>PowerSource</i>	8-bit	0x00 –0xff	Read only		M
0x0010	<i>LocationDescription</i>	Character String	0 – 32 bytes	Read / Write		O
0x0011	<i>PhysicalEnvironment</i>	8-bit	0x00 –0xff	Read / Write	0x00	O
0x0012	<i>DeviceEnabled</i>	Boolean	0x00 –0x01	Read / Write	0x01	M

• **Attribute of Identify Cluster Information**

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	<i>IdentifyTime</i>	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	<i>ZoneState</i>	8-bit Enumeration	All	Read only	0x00	M
0x0002	<i>ZoneType</i>	8-bit Enumeration	All	Read only		M
0x0003	<i>ZoneStatus</i>	16-bit bitmap	All	Read only	0x00	M
0x0010	<i>IAS_CIE_ADDRESS</i>	IEEE ADDRESS	Valid 64bit IEEE address	Read / Write		M
0x0011	<i>ZONE_ID</i>	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. 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.