

ring

Ring Alarm Outdoor Siren Z-Wave Technical Manual



Ring Outdoor Siren

Introduction

Ring Alarm Outdoor Siren is a wireless device for the Ring Alarm system to notify users of an emergency. The Outdoor Siren can help others quickly identify your home with an adjustable volume siren and flashing LED lights. The Ring Alarm Base Station is required to enable Outdoor Siren features and functions within the Ring app.

Ring Alarm Outdoor Siren – Basic Setup & Installation

In-app Setup

1. Ensure your Ring Alarm system is disarmed.
2. In the Ring app, tap **Set Up a Device** and find the Outdoor Siren in the **Security Devices** menu.
3. Follow the in-app instructions to complete setup.

Installation

1. Choose a location for installing your Outdoor Siren.
 - a) **Visibility.** Your Outdoor Siren's LED lights and siren should be able to signal anyone passing by your home when your alarm system is triggered.
 - b) **Close to your power source.** If using the Plug-in adapter or hardwiring the Outdoor Siren, it should be close to an outlet or electrical wiring. If you're using the Solar Panel, make sure the spot gets good sunlight.
 - c) **Safe access.** You should install the Outdoor Siren in a spot where you can access the batteries safely. If you need to use a ladder, make sure it's on solid ground.

Note:

- This product can be operated in any Z-Wave™ network with other Z-Wave certified devices from other manufacturers. All mains operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.
- This is a SmartStart enabled product which can be added into a Z-Wave network by scanning the Z-Wave QR Code present on the product with a controller providing SmartStart inclusion. No further action is required and the SmartStart product will be added automatically within 10 minutes of being switched on in the network vicinity. This product can also be operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers.

Z-Wave Instructions

Z-Wave Device Type: Siren

Role Type: Listening Sleeping Role

- **GENERIC_TYPE_AV_CONTROL_POINT (0x03)**
- **SPECIFIC_TYPE_SOUND_SWITCH (0x01)**

Ring Alarm Outdoor Siren Inclusion

Adding Ring Alarm Outdoor Siren to a Z-Wave Network

Ring Alarm Outdoor Siren can be added via SmartStart or Classic inclusion mode.

Note: When prompted for the QR Code or PIN, you may find them on the back of the device, on the box, or on a card inside the box. Keep the device nearby. You'll be prompted to pull the battery tab to power on the device and enter setup mode.

Smart Start Inclusion Steps:

1. Initiate the add flow for Security Devices in the Ring mobile application – Follow the guided add flow instructions provided in the Ring mobile application.
2. When prompted by the mobile application, scan the QR code found on the package of the Outdoor Siren. The QR code can also be found on the back of the device itself.
3. Pull the pull-tab or insert batteries, and the device will go into SmartStart inclusion mode. While in this mode, Outdoor Siren can be added to a Z-Wave controller that supports SmartStart. When in SmartStart inclusion mode, SmartStart can be restarted by tapping the button on the front of the device.

Classic Inclusion Steps:

1. Initiate add flow for Security Devices in the Ring mobile application – Follow the guided add flow instructions provided in the Ring mobile application.
2. Select add manually and enter the 5-digit DSK pin found on the package of the Ring Alarm Outdoor Siren or the 5-digit DSK pin found under the QR code on the device.
3. After powering on the device, press and hold the test under the battery cover ~3 seconds. Release the button and the device will enter Classic inclusion mode which implements both classic inclusion with a **Node Information Frame**, and **Network Wide Inclusion**. During Classic Inclusion mode, the green LED will blink three times followed by a brief pause, repeatedly. When Classic inclusion times-out, the device will blink alternating red and green a few times.

LED Behavior for Inclusion	Blink Pattern
SmartStart Started	Green LED three times, repeated after a brief pause
Classic Inclusion Started	Green LED three times, repeated after a brief pause
Classic Inclusion Timed-Out	Alternate red and green a few times
Inclusion Successful (Authenticated S2)	Green LED on solid
Inclusion Not Successful (Self-Destruct)	Red LED on solid

Removing Ring Alarm Outdoor Siren from a Z-Wave Network

Exclusion Instructions:

1. Initiate remove “Ring Alarm Outdoor Siren” flow in the Ring Alarm mobile application – Select the settings icon from device details page and choose “Remove Device” to remove the device. This will place the controller into Remove or “Z-Wave Exclusion” mode.
2. Locate the reset button on the back of the device under the battery compartment.
3. With the controller in Remove (Z-Wave Exclusion) mode, use a paper clip or similar object and tap the pinhole button. The device’s red LED turns on solid to indicate the device was removed from the network.

Ring Alarm Outdoor Siren – Reset Factory Default Instructions

1. To restore Ring Alarm Outdoor Siren to factory default settings, locate the reset button underneath the battery cover.
2. Using a paperclip or similar object, insert it into the pinhole, press and hold the button down for 10 seconds.
3. The device will rapidly blink green continuously for 10 seconds. After about 10 seconds, when the green blinking stops, release the button. The red LED will turn on solid to indicate the device was removed from the network.

Use this procedure only in the event that the network primary controller is missing or otherwise inoperable.

Wake-Up Notification

Not applicable. Ring Alarm Outdoor Siren is a Frequently Listening Receiver (FLiRS) device and does not support Wake Up Command Class.

Z-Wave Command Classes

Command Class	Version	Required Security Class
Association	2	Highest Granted
Basic	2	Highest Granted
Association Group Information	3	Highest Granted
Device Reset Locally	1	Highest Granted
Firmware Update Meta Data	5	Highest Granted
Indicator	3	Highest Granted
Manufacturer Specific	2	Highest Granted
Multi-Channel Association	3	Highest Granted
Powerlevel	1	Highest Granted
Security 2	1	None
Sound Switch	2	Highest Granted
Supervision	1	None
Transport Service	2	None
Version	3	Highest Granted
Z-Wave Plus Info	2	None
Notification	8	Highest Granted
Configuration	4	Highest Granted
Configuration	2	Highest Granted

Association Command Class

Group Identifier	Max Nodes	Description
1 (Lifeline)	0x05	1. Notification Report a. See notification CC section for notifications that are sent 2. Battery Report 3. Device Reset Locally Notification

Configuration Command Class

Parameter	Description	Number of Bytes	Default	Min	Max	Format
1	Heartbeats: This parameter is the number minutes between heartbeats. Heartbeats are automatic battery reports on a timer after the last event.	1	70 (0x46)	1 (0x01)	70 (0x46)	0x01 Unsigned
2	Number of application level retries attempted for messages either not ACKed or messages encapsulated via supervision get that did not receive a report.	1	1 (0x01)	0 (0x00)	5 (0x05)	0x01 Unsigned
3	Application Level Retry Base Wait Time Period: The number base seconds used in the calculation for sleeping between retry messages.	1	5 (0x05)	1 (0x01)	60 (0x3C)	0x01 Unsigned
4	Low Battery Threshold (percentage) - Once the battery crosses this threshold, it will last for 2 weeks (including 1 siren activation)	1	25 (0x19)	0 (0x00)	100 (0x64)	0x01 Unsigned
5	Critical Battery Threshold (percentage) - Once the battery crosses this threshold, it will last for 1 week (including 1 siren activation)	1	25 (0x0A)	0 (0x00)	100 (0x64)	0x01 Unsigned
6	The number of milliseconds waiting for a Supervisory Report response to a Supervisory Get encapsulated command from the sensor before attempting a retry.	2	1500 (0x5DC)	500 (0x1F4)	5000 (0x1388)	0x01 Unsigned
7	Z-wave Sleep Timeout: Stay awake time after last comms with hub	1	10 (0x0A)	0 (0x00)	15 (0x0F)	0x01 Unsigned
8	Siren duration Limit (in min)	1	3 (0x03)	0 (0x00)	10 (0x0A)	0x01 Unsigned
9	QRBP switch Threshold: (percentage) Once the rechargeable battery has charged to this threshold, device can switch to it if running on D-cells	1	10 (0x0A)	0 (0x00)	100 (0x64)	0x01 Unsigned
10	Blinking Logo Ramp time Ramp time in units of ten milliseconds each to turn the Logo LED on/off when Blinking	1	50 (0x32)	0 (0x00)	255 (0xFF)	0x01 Unsigned

Notification Command Class, V8

Sensor Condition	Command Class and Value	Association Group
AC mains power reconnected	Notification Report Type: 0x08 Power Management State: 0x03 AC mains reconnected	1 (Lifeline)
AC mains power disconnected	Notification Report Type: 0x08 Power Management State: 0x02 AC mains disconnected	1 (Lifeline)
Watchdog Notification	Type: System 0x09 State Value: 0x04 System Software Failure State Parameter Value = 0x55	1 (Lifeline)
Watchdog Notification - Tx Manager	Notification Report Type: System 0x09 State Value: 0x04 System Software Failure State Parameter Value = 0x56	1 (Lifeline)
Software Fault (Ring)	Notification Report Type: System 0x09 State Value: 0x04 System Software Failure State Parameter Value = 0xAA (Ring Value for Soft Fault)	1 (Lifeline)
Software Fault (SDK)	Notification Report Type: System 0x09 State Value: 0x04 System Software Failure State Parameter Value = 0xA9 (SDK Value for Soft Fault)	1 (Lifeline)
Software Reset (Not triggered by failure)	Notification Report Type: System 0x09 State Value: 0x04 System Software Failure State Parameter Value = 0xAC	1 (Lifeline)
Power On Reset	Notification Report Type: 0x08 Power Management Event Parameter: 0x01 Power has been applied	1 (Lifeline)
Brownout	Notification Report Type: 0x08 Power Management Event: 0x05 Voltage Drop/Drift	1 (Lifeline)
Pin Reset (soft reset)	Notification Report Type: System 0x09 State Value: 0x04 System Software Failure State Parameter Value = 0xAB	1 (Lifeline)
Dropped Frame	Notification Report Type: System 0x09 State Value: 0x04 System Software Failure State Parameter Value = 0xAD	1 (Lifeline)
Tampered	Notification Report Type: Home Security 0x07 State: Tampering Product Covering Removed 0x03	1 (Lifeline)
Tamper Cleared	Notification Report Type: Home Security 0x07 State: Previous Events Cleared 0x00 Event Parameter: 0x03	1 (Lifeline)
Comm Test Button Pressed	Notification Report Type: System 0x09 Event: Heartbeat 0x05	1 (Lifeline)

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

CAN ICES-3 (B)/NMB-3(B)

In accordance with FCC requirements of human exposure to radio frequency fields, the radiating element shall be installed such that a minimum separation distance of 20 cm is maintained from the general population.

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CAUTION: To reduce the risk of electrical shock, DO NOT open the unit. There are no user serviceable parts inside the unit. Refer to customer support for any repairs.

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of the used batteries according to the manufacturer's instructions.

To review your warranty coverage, please visit www.ring.com/warranty.

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