ring Motion Detector 2nd Generation Z-Wave User Guide

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Introduction

Ring Alarm Motion Detector is a wireless sensor for the Ring Alarm system which provides users the ability to know when there is movement of a person or similar object within an area. After installing the sensor and setting up the sensor in the Ring app, monitor and receive notifications motion is detected. The Ring Alarm Base Station is required to enable Motion Detector features and functions within the Ring app.
Notes:

1. 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.
2. SmartStart enabled products 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.

Installation & Set Up

Ring Alarm Motion Detector – 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 Motion Detector in the Security Devices menu.
3. Follow the in-app instructions to complete setup.
   a. Pull the battery tab (or reinsert the batteries) to trigger setup mode.
   b. Tap the button on the front to retry setup mode.

Installation

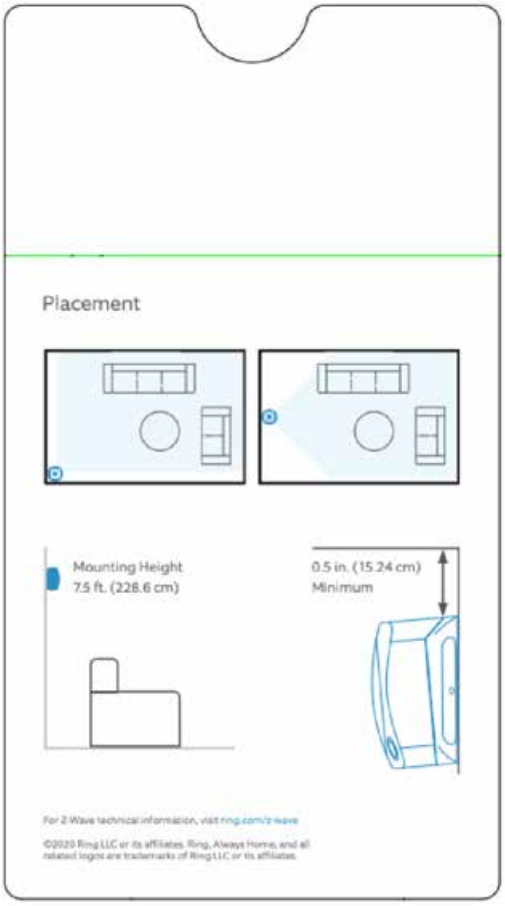
1. Choose a location for installing your Motion Detector.
   a. For best coverage, install the Motion Detector at a height of between 7-8 feet
   b. It is recommended to install the Motion Detector on a wall or in a corner looking out onto an area to monitor.
   c. Ensure no large objects block the field of view (FOV) of the Motion Detector.
2. Ensure the surface where you plan to install your Motion Detector is clean and free from dust or dirt.
3. Using the provided double-sided tape, peel the backing and attach the Motion Detector to the mounting location.

Note

Leave ~ ½ in. of space free on the top side to ensure you can slide open the case when it's time to change the batteries.
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: Notification Sensor
Role Type: Listening Sleeping Slave
GENERIC_TYPE_SENSOR_NOTIFICATION (0x07)
SPECIFIC_TYPE_NOTIFICATION_SENSOR (0x01)



Ring Alarm Motion Detector – Inclusion

Adding Ring Alarm Motion Detector to a Z-Wave Network
Ring Alarm Motion Detector can be added via SmartStart or Classic inclusion mode.
Note
When prompted for the QR Code or PIN, you may find them on 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.
SmartStart 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 Motion Detector. The QR code can also be found on the device itself.
3. Pull the pull-tab or insert batteries, and the device will go into SmartStart inclusion mode. While in this mode, Motion Detector 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:
Classic Inclusion should be used if the controller does not support SmartStart.

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 Motion Detector or the 5-digit DSK PIN found under the QR code on the device.
3. After powering on the device, press and hold the button on the front of the device for ~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 Behabior 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

Ring Alarm Motion Detector – Exclusion

Removing Ring Alarm Motion Detector from a Z-Wave Network
Exclusion Instructions:

1. Initiate remove “Ring Alarm Motion Detector” 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 pinhole reset button on the back of the device in 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 Motion Detector – Factory Reset

Factory Default Instructions

1. To restore Ring Alarm Motion Detector to factory default settings, locate the pinhole reset button on the device. This is found inside the battery compartment on the back of the device after removing the back bracket.
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.

Note
Use this procedure only in the event that the network primary controller is missing or otherwise inoperable.
Wake-Up Notification
Not applicable. Ring Alarm Motion Detector is a Frequently Listening Receiver Slave (FLiRS) device and does not support Wake Up Command Class.

Z-Wave Command Classes

Command Class	Version	Required Security Class
Association	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
Supervision	1	none
Transport Service	2	none
Version	3	Highest granted
Z-Wave Plus™ Info	2	none
Notification	8	Highest granted
Wake Up	2	Highest granted
Configuration	4	Highest granted
Battery	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

The sensor has the following supported configuration parameters.

Parameter Number	Description	Number of Bytes	Default	Min	Max	Format
1	Heartbeats: This parameter is the number min- utes between heartbeats. Heart- beats are automatic batt ery reports on a timer after the l ast event.	1	70 (0x46)	1 (0x01)	70 (0x46)	0x01 Unsigned
2	Number of application level retr ies attempted for messages eit her not ACKed or messages en capsulated via supervision get t hat 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 calcu lation for sleeping between retr y messages.	1	5 (0x05)	1 (0x01)	60 (0x3C)	0x01 Unsigned

4	This parameter allows a user, via software, to configure the various LED indications on the device. 0 == Don't show green 1 == Show green after Supervision Report Intrusion (Fault) 2 == Show green after Supervision Report both Intrusion and Intrusion clear	1	1 (0x01)	0 (0x00)	2 (0x01)	enum
5	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
6	Occupancy Clear Delay (seconds)	2	0x00	0x00	0xFF	0x01 Unsigned
7	Intrusion Clear Delay (seconds)	1	0x05	0x00	0xFF	0x01 Unsigned
8	Standard Clear Delay (seconds)	1	0x0A	0x00	0xFF	0x01 Unsigned
9	Motion Detection Mode	1	0x03	0x00	0x04	0x01 Unsigned

10	Any motion Threshold	1	0x80	0x00	0xFF	0x01 Unsigned
11	Lighting Enabled	1	0x00	0x00	0x01	0x01 Unsigned
12	Lighting Delay	1	0x02	0x00	0x3C	0x01 Unsigned

Notification Command Class, V8

Sensor Condition	Command Class and Value	Association Group
Motion Detected	Notification Report Type: Home Security 0x07 State: Intrusion 0x08	1 (Lifeline)
Motion Cleared	Notification Report Type: Home Security 0x07 State: Previous Events Cleared 0x00 Event parameter: 0x08	1 (Lifeline)
Sensor Case Removed	Notification Report Type: Home Security 0x07 State: Tampering Product Covering Removed 0x03	1 (Lifeline)

Sensor Case Fastened	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)
Watchdog Notification	Notification Report Type: System 0x09 State Value: 0x04 System Software Failure State Parameter Value = 0x55	
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)
Pin Reset (soft reset)	Notification Report Type: System 0x09 State Value: 0x04 System Software Failure State Parameter Value = 0xAB	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	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)
Dropped Frame	Notification Report Type: 0x08 Power Management Event Parameter: 0x01 Power has been applied	1 (Lifeline)
Co-Processor Watchdog	Notification Report Type: System 0x09 State Value: 0x04 System Software Failure State Parameter Value = 0xAE	1 (Lifeline)
Failed to retrieve FW version of Co-Processor	Notification Report Type: System 0x09 State Value: 0x04 System Software Failure State Parameter Value = 0xAF	1 (Lifeline)

Supplier's Declaration of Conformity – Compliance Information Statement

Unique Identifier: Ring Contact Sensor
Responsible Party and Party issuing Supplier's Declaration of Conformity

Ring LLC dba Ring
1523 26th Street
Santa Monica, CA 90404 U.S.A.
www.ring.com / **Legal@ring.com**

FCC Compliance Statement (for products subject to Part 15)

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.

NOTE: 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 or more 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.

Innovation, Science and Economic Development Canada (ISED) Compliance

This device contains licence-exempt transmitter(s)/ receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

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

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.

Documents / Resources

	ring Motion Detector 2nd Generation Z-Wave [pdf] User Guide ring, Motion Detector, 2nd Generation, Z-Wave