Wink

Wink Motion Sensor

SKU: Wink Motion Sensor

Quickstart

This is a **Alarm Sensor** for **U.S. / Canada / Mexico**. Please make sure the internal battery is fully charged. To add this device to your network execute the following action:
Follow the instructions for your Z-Wave certified Controller to enter inclusion mode.When prompted by the Controller:1. For proper inclusion, bring the Motion Detector within range of your Controller.2. Pull the tab on the side of the sensor to power on, or remove then re-install the batteries.The LED indicator willflashfive times indicating inclusion.

Attention: This manual is automatically generated from Z-Wave Alliance Product data and may be incomplete. Please refer to the Manufacturers Manual for more information.

Important safety information

Please read this manual carefully. Failure to follow the recommendations in this manual may be dangerous or may violate the law. The manufacturer, importer, distributor and seller shall not be liable for any loss or damage resulting from failure to comply with the instructions in this manual or any other material. Use this equipment only for its intended purpose. Follow the disposal instructions. Do not dispose of electronic equipment or batteries in a fire or near open heat sources.

What is Z-Wave?

Z-Wave is the international wireless protocol for communication in the Smart Home. This device is suited for use in the region mentioned in the Quickstart section.

Z-Wave ensures a reliable communication by reconfirming every message (**two-way communication**) and every mains powered node can act as a repeater for other nodes (**meshed network**) in case the receiver is not in direct wireless range of the transmitter.

This device and every other certified Z-Wave device can be **used together with any other certified Z-Wave device regardless of brand and origin** as long as both are suited for the same frequency range.

If a device supports **secure communication** it will communicate with other devices secure as long as this device provides the same or a higher level of security. Otherwise it will automatically turn into a lower level of security to maintain backward compatibility.

For more information about Z-Wave technology, devices, white papers etc. please refer to www.z-wave.info.

Product Description

The Wink Motion Sensor is a Z-Wave Plus battery-powered device that senses motion in your home, helping you monitor activity around your home to keep your family safe. When motion is detected, your sensor will blink with a blue LED indicator and your Wink Hub or other Z-Wave Plus certified hub can send an alert to your smartphone, set off an alarm or chime, or trigger an automation such as turning on your lights. This sensor has flexible mounting options, convenient for multi surface installation on wall, ceiling, shelf or tabletop. The sensor body design with magnetic cradle and angled facet offers easy line-of-sight perspective of the area you wish to monitor, with an extra-wide 110 coverage area, and uses a spherical magnet to hold the sensor body in place, so that it can point in any direction. The Wink Motion Sensor offers an extra-long z-wave wireless range of up to 150 feet, and requires a Wink Hub or other Z-Wave Plus certified hub for operation. The Motion Sensor comes with a CR123A 3.0V battery and has a three-year battery life, and will send an alert to your smartphone when the device has low battery. Z-Wave Plus CertifiedRequires a Z-Wave Plus Certified Hub to operateWorks with all Z-Wave Plus compatible networksFlexible Mounting Options110 Extra-Wide Coverage AreaUp to 150 feet rangeThree-Year Battery Life (CR123A Battery included)Low Battery IndicationMeasurements in millimeters: 45 x 45 x 56.2 mm (combined depth of mount and sensor)

Prepare for Installation / Reset

Please read the user manual before installing the product.

In order to include (add) a Z-Wave device to a network it **must be in factory default state.** Please make sure to reset the device into factory default. You can do this by performing an Exclusion operation as described below in the manual. Every Z-Wave controller is able to perform this operation however it is recommended to use the primary controller of the previous network to make sure the very device is excluded properly from this network.

Reset to factory default

This device also allows to be reset without any involvement of a Z-Wave controller. This procedure should only be used when the primary controller is inoperable.

To disconnect from the Z-Wave Network and restore factory default settings:1. Remove the cover of the Motion Detector and be sure it is powered on.2. Hold the Connect Button for 10 seconds until the LED indicator blinks once, then release the button.Only do this if the controller is disconnected or otherwise unreachable!

Inclusion/Exclusion

On factory default the device does not belong to any Z-Wave network. The device needs to be **added to an existing wireless network** to communicate with the devices of this network. This process is called **Inclusion**.

Devices can also be removed from a network. This process is called **Exclusion**. Both processes are initiated by the primary controller of the Z-Wave network. This controller is turned into exclusion respective inclusion mode. Inclusion and Exclusion is then performed doing a special manual action right on the device.

Inclusion

Follow the instructions for your Z-Wave certified Controller to enter inclusion mode.When prompted by the Controller:1. For proper inclusion, bring the Motion Detector within range of your Controller.2. Pull the tab on the side of the sensor to power on, or remove then re-install the batteries.The LED indicator willflashfive times indicating inclusion.

Exclusion

Follow the instructions for your Z-Wave certified Controller to enter exclusion mode. When prompted by the Controller:1. Remove the cover of the Motion Detector and be sure it is powered on.2. Press the Connect Button on the bottom of the device quickly 3 times in a row.The LED Indicator willflashfive times indicating exclusion/disconnection.

Communication to a Sleeping device (Wakeup)

This device is battery operated and turned into deep sleep state most of the time to save battery life time. Communication with the device is limited. In order to communicate with the device, a static controller **C** is needed in the network. This controller will maintain a mailbox for the battery operated devices and store commands that can not be received during deep sleep state. Without such a controller, communication may become impossible and/or the battery life time is significantly decreased.

This device will wakeup regularly and announce the wakeup state by sending out a so called Wakeup Notification. The controller can then empty the mailbox. Therefore, the device needs to be configured with the desired wakeup interval and the node ID of the controller. If the device was included by a static controller this controller will usually perform all necessary configurations. The wakeup interval is a tradeoff between maximal battery life time and the desired responses of the device. To wakeup the device please perform the following action: Because the Motion Detector is a battery powered device, it wakes up on regular intervals to give battery and other status updates to the controller, as well as to accept configuration settings from the controller.This helps to extend the battery life.The device can be forced to wake up to submit these reports or accept new settings immediately by simply pressing and holding the BUTTON for two seconds.The LED INDICATOR will flash once indicating successful wake up.

Quick trouble shooting

Here are a few hints for network installation if things dont work as expected.

1. Make sure a device is in factory reset state before including. In doubt exclude before include.
2. If inclusion still fails, check if both devices use the same frequency.
3. Remove all dead devices from associations. Otherwise you will see severe delays.
4. Never use sleeping battery devices without a central controller.
5. Dont poll FLIRS devices.
6. Make sure to have enough mains powered device to benefit from the meshing

Association - one device controls an other device

Z-Wave devices control other Z-Wave devices. The relationship between one device controlling another device is called association. In order to control a different device, the controlling device needs to maintain a list of devices that will receive controlling commands. These lists are called association groups and they are always related to certain events (e.g. button pressed, sensor triggers, ...). In case the event happens all devices stored in the respective association group will receive the same wireless command wireless command, typically a 'Basic Set' Command.

Association Groups:

Group Number	Maximum Nodes	Description
1	5	Group 1 is the Lifeline group, which can hold five devices.The Motion Detector sends this group a Notification Report and Binary Sensor Report whenever motion is detected and when it stops.It also sends a Multilevel Sensor Report incrementally based on time (see Param 7,) or when a relative change in light level is detected (see Param 9.)Finally, the Motion Detector sends this group Battery Reports and a Device Reset Locally notification to remove itself from the Z-Wave network.
2	5	The Motion Detector sends a BASIC_SET command to Association Group 2 to directly trigger devices (like a siren, chime, etc.) when motion is detected and when it stops.Optionally, the Motion Detector can be set to only send this when ambient light levels fall below a predetermined level (see Configuration Parameters 5 and 8.)See Configuration Parameters 2, 3, 5, and 8 for more details regarding Association Group 2.
3	5	Group 3 supports up to 5 members and the Motion Detector sends it a NOTIFICATION_REPORT when motion is detected and when it stops.
4	5	Group 4 supports up to 5 members and the Motion Detector sends it a SENSOR_BINARY_REPORT when motion is detected and when it stops.

Configuration Parameters

Z-Wave products are supposed to work out of the box after inclusion, however certain configuration can adapt the function better to user needs or unlock further enhanced features.

IMPORTANT: Controllers may only allow configuring signed values. In order to set values in the range 128 ... 255 the value sent in the application shall be the desired value minus 256. For example: To set a parameter to 200 it may be needed to set a value of 200 minus 256 = minus 56. In case of a two byte value the same logic applies: Values greater than 32768 may needed to be given as negative values too.

Parameter 1: Sensitivity Level

This parameter sets the sensitivity of the Motion Detector. It is a unitless parameter ranging in values from 8 up to 255, with 8 being the highest sensitivity level and 255 being the lowest.After physical installation, make sure the farthest part of the coverage area is still visible to theMotion Detector by adjusting this parameter.
Size: 1 Byte, Default Value: 12

Setting	Description
8 - 255	Sensitivity Level

Parameter 10: Enable/Disable LED INDICATOR

If this parameter is enabled, the LED INDICATOR will flash everytime there motion is detected.If this is disabled, the LED INDICATOR will not flash to indicate motion events.

Size: 1 Byte, Default Value: 1

Setting	Description
0	LED Disabled
1	LED Enabled

Parameter 2: Motion Cleared Time Delay

This parameters sets the amount of time after a motion event before the Motion Detector reports no activity to the main controller (see Notification and Binary Sensor command classes on page 14-15 for more information.)This also sets the amount of time before a BASIC_SET(00) command is sent to Association Group 2 to turn off any activated devices.This value must be higher than the value of Parameter 6, and if this parameter is reset to default settings, Parameter 6 will also be reset.See Group 2 on page 14 for more information.

Size: 2 Byte, Default Value: 30

Setting	Description
5 - 600	In Seconds

Parameter 3: Basic Set Level

This parameter sets the value sent by the BASIC_SET command to Association Group 2 (for more information, see Group 2 on page 14.)

Size: 1 Byte, Default Value: 255

Setting	Description
0	Turn Off
1 - 99	Dim Level
255	On

Parameter 4: Enable/Disable Motion Detection

This setting enables or disables motion detection.
Size: 1 Byte, Default Value: 1

Setting	Description
0	Motion Detection Disabled
1	Motion Detection Enabled

Parameter 5: Group 2 Ambient Light Threshold

If Parameter 8 is enabled, this setting sets the light level below which the Motion Detector will send BASIC_SET commands to Association Group 2 when motion is detected.For more information, seeGroup 2 on page 14.
Size: 2 Byte, Default Value: 100

Setting	Description
5 - 1000	in Lux

Parameter 6: Retrigger Interval

After each motion event, the Motion Detector is disabled for the amount of time set by this parameter before it can send out another Motion Detected Notification Report/Binary Sensor Report.This value must be lower than the value of Parameter 2, and if this parameter is reset to default settings, Parameter 2 will also be reset.
Size: 1 Byte, Default Value: 8

Setting	Description
1 - 8	in Seconds

Parameter 7: Light Sensing Interval

This parameter sets the amount of time between each successive ambient light level reading that is sent.This value must be less than the Wakeup Interval Time (which is 43,200 seconds or 12 hours by default.)
Size: 2 Byte, Default Value: 180

Setting	Description
60 - 3600	in Seconds

Parameter 8: Enable/Disable Group 2 Ambient Light Threshold

If this parameter is enabled, the Motion Detector will only send Basic Set commands to Associon Group 2 if the ambient light level is below the value set in

Parameter 05.For more information, see Group 2 on page 14.
Size: 1 Byte, Default Value: 0

Setting	Description
0	Group 2 Ambient Light Threshold Disabled
1	Group 2 Ambient Light Threshold Enabled

Parameter 9: Ambient Light Sensitivity Level

This Parameter sets the minimum change in ambient light level (in lux) the Motion Detector must detect before a Multilevel Sensor Report is sent to the main controller.
Size: 1 Byte, Default Value: 100

Setting	Description
0 - 255	in Lux

Technical Data

Hardware Platform	ZM5202
Device Type	Notification Sensor
Network Operation	Reporting Sleeping Slave
Firmware Version	HW: 66 FW: 3.80
Z-Wave Version	6.51.06
Certification ID	ZC10-17075686
Z-Wave Product Id	0x017F.0x0101.0x0001
Sensors	LuminanceMotion/No Motion (Binary)
Color	White
Supported Notification Types	Access Control
Frequency	XXfrequency
Maximum transmission power	XXantenna

Supported Command Classes

- Association Grp Info
- Association V2
- Battery
- Configuration
- Device Reset Locally
- Manufacturer Specific V2
- Notification V4
- Powerlevel

- Sensor Binary V2
- Sensor Multilevel V7
- Version V2
- Wake Up V2
- Zwaveplus Info V2

Controlled Command Classes

- Basic V2

Explanation of Z-Wave specific terms

- **Controller** — is a Z-Wave device with capabilities to manage the network. Controllers are typically Gateways,Remote Controls or battery operated wall controllers.
- **Slave** — is a Z-Wave device without capabilities to manage the network. Slaves can be sensors, actuators and even remote controls.
- **Primary Controller** — is the central organizer of the network. It must be a controller. There can be only one primary controller in a Z-Wave network.
- **Inclusion** — is the process of adding new Z-Wave devices into a network.
- **Exclusion** — is the process of removing Z-Wave devices from the network.
- **Association** — is a control relationship between a controlling device and a controlled device.
- **Wakeup Notification** — is a special wireless message issued by a Z-Wave device to announces that is able to communicate.
- **Node Information Frame** — is a special wireless message issued by a Z-Wave device to announce its capabilities and functions.
