Everspring

# Door- and Window Sensor

SKU: EVR_HSM02

## Quickstart

This is a **Door/Window Sensor** for **Europe**. To run this device please insert fresh **1 * CR2450** batteries. Please make sure the internal battery is fully charged.

A tripple click on the tampering switch behind the battery cover within 1.5 seconds will confirm Inclusion and Exclusion. A single click on the same switch will wake up the device and keep it awake for 30 seconds.

## 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. (For more information about frequency regulations please refer to the frequency coverage overview at Sigma Designs Website ).

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

This sensor offers information whether a door or window is open or closed. The product consists of a magnetic element and the main unit. One of the parts is mounted on the moving part of the window or of the door. The other part is placed on the frame. The installation can be done with screws or double-sided tape. The HSM02 is a battery-powered device, which is in sleeping mode unless an action is detected. After a programmable sleeping time the device wakes up and sends a status information. After this the unit goes back to sleeping modus. Batteries can be changed without unscrewing the device from the door or frame. The unit will give a visual warning on the device and send a warning to the Z-Wave controller, when batteries need to be replaced. The units send information to a controller or any other associated Z-Wave device. Up to 5 devices can be controlled from this device.

The device needs to be included into a Z-Wave network by a remote control or any other Z-Wave controller. For configuration of certain behaviour a static controller such as a PC with home automation software or a gateway is required.

## 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.

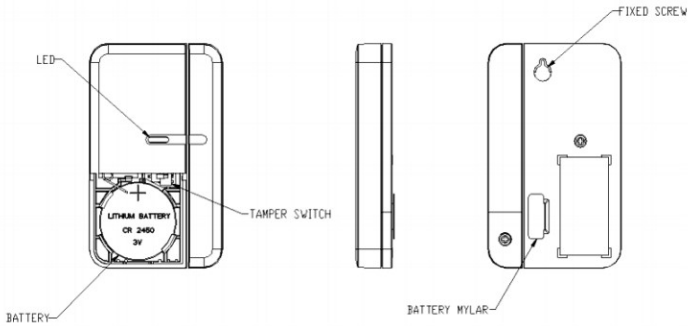
1. Press tamper switch three times withhin 1,5second.
2. Within 1 secound, press and holdthe tamperswitch until LED is off - LED keeps on befor reset function has been compleated.

### Safety Warning for Batteries

The product contains batteries. Please remove the batteries when the device is not used. Do not mix batteries of different charging level or different brands.

## Installation

1. Ensure that the system properly poweres. Factory default built in a CR2450 battery inside the detector and uses a Mylar film to isolate battery from electric circuit of the detector. Remove the battery Mylar film when ready to let the detector work. If there is no battery inside the detector or need to replace a new battery please insert the battery in 45° angle as below figured




2. Using the adhesive tape to fit the detector on the door or window.

3. Fit the magnet to the moving part of the door/window on the opposite of the detector using the adhesive tape.

4. Ensure that the parallel gap between the magnet and the detector is less than 20 mm and that the matching line on the magnet is pointing towards and aligned with the line on the detector. An alarm condition will be occurred if the gap is larger than 35 mm.

5. Remove the battery cover without pressing the tamper switch on the detector (test mode) and detach or close the magnet from the detector. The LED on the detector will illuminate.

6. After proper installation and test, put the battery cover back to the detector and the detector enters the normal mode.

## 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

A tripple Click on the tampering switch behind the battery cover within 1.5 seconds

### Exclusion

A tripple Click on the tampering switch behind the battery cover within 1.5 seconds

## Node Information Frame

The Node Information Frame (NIF) is the business card of a Z-Wave device. It contains information about the device type and the technical capabilities. The inclusion and exclusion of the device is confirmed by sending out a Node Information Frame. Beside this it may be needed for certain network operations to send out a Node Information Frame. To issue a NIF execute the following action:

A single click on the tampering switch behind the battery cover will send out a Node Information Frame.

## 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:

A single click on the tampering switch behind the battery cover will wake up the device and keep it awake for 30 seconds.

## 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** | 1 | Alarms and Sensor Status Reports |
| **2** | 5 | Controls devices when sensor triggers |

## 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: Level sent on open event

*Defines which level to send when sensor triggers*
Size: 1 Byte, Default Value: 63

| Setting | Description |
|---|---|
| **01 - 99** | Dimmlevel |
| **99** | ON (Binary Switch) |

### Parameter 2: OFF Delay

*Defines the time to wait before the sensor will send OFF command*
Size: 1 Byte, Default Value: 1

| Setting | Description |
|---|---|
| **0** | Immediately |
| **1 - 127** | Seconds |

## Technical Data

| | |
|---|---|
| **Dimensions** | 0.0710000x0.0430000x0.0150000 mm |
| **Weight** | 39 gr |
| **Hardware Platform** | ZM3102 |
| **EAN** | 4713616113298 |
| **IP Class** | IP 20 |
| **Battery Type** | 1 * CR2450 |
| **Device Type** | Door/Window Sensor |
| **Generic Device Class** | Binary Sensor |
| **Specific Device Class** | Routing Binary Sensor |
| **Firmware Version** | 01.01 |
| **Z-Wave Version** | 02.4e |
| **Certification ID** | ZC08-11120005 |
| **Z-Wave Product Id** | 0116.0002.0001 |

## Supported Command Classes

- Battery
- Basic
- Wake Up
- Association
- Version
- Sensor Binary
- Configuration
- Alarm

- Manufacturer Specific

## 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.

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