Door / Window Sensor 7 Basic

Quickstart

This is a **secure Alarm Sensor**. To run this device please insert fresh **1 * 1/2 AA** batteries. Please make sure the internal battery is fully charged. Tripple clicking the tamper button includes (adds) and excludes (removes) the device. A single click on the button will wake up the device. The device supports the Z-Wave Security S2 framework with authenticated and unauthenticated network keys. Please follow the instructions on the central controller when including. The device also supports Smart Start. Please scan the QR code inside the battery compartment of the device and your controller will add the device automatically when powered up.

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 AEOTEC Door/Window Sensor 7 Basic is a sensor, which detects if your window is opened or closed. The sensor is easily retrofittable.

Thanks to its slim design the AEOTEC Door/Window Sensor 7 Basic can be installed unflashy on every window. The sensor just has to be installed on the window casement. Additionally, there has to be a slim magnet installed closely to the sensor at the window frame.

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.

Once Cover is removed and tamper switch is tripped, push the tamper for 5 seconds until red LED blinks. Then release tamper and push it again for 5 seconds until LED blinks.

Safety Warning for Batteries

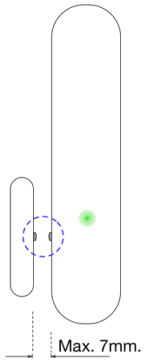
The product contains batteries. Please remove the batteries when the device is not used. Do not mix batteries of different charging level or different brands.

Installation

The sensor can be mounted either on the moving part or on the fixed part of a door or a window. Mounting can be accomplished either using the tape by peeling off the protection foil or using two screws with the holes inside the battery compartment. The sensor comes

with two types of magnets:

- The standard magnet covered by plastic part, mountable beside the sensor. Make sure the two indicating lines on sensor enclosure and magnet are opposite to each other. The image on the right-hand side shows the position of magnet and sensor body.
- A slim naked magnet to be mounted behind the sensor in case the sensor body is placed on the side of a window.



For German-style windows where the window sits on top of the window frame mounting on the side of the window is highly recommended. The sensor can be placed on any position of the door or the window.

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

Tripple click the tamper switch

Exclusion

Tripple click the tamper switch

Product Usage

Once installed the sensor will report □open□ and □close□ status changes to a central Z-Wave controller using notification commands. Additionally, the sensor can directly control other device using the association group 2. The device is protected by a tamper switch.

Link testing

When activated by configuration parameter #4 the device can perform a link test with device No.1. Double-clicking the tamper will start the process. As a result, the red LED will blink one time in case of success and three times in case of failure.

The device sends the following notifications to the central controller:

- Window Opened(0x06 - 0x16)
- Window Closed(0x06 - 0x17)
- Tamper Removed(0x07 - 0x03)

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

Firmware-Update over the Air

This device is capable of receiving a new firmware 'over the air'. The update function needs to be supported by the central controller. Once the controller starts the update process, perform the following action to confirm the firmware update: Wake Up the device by removing the cover. Then hit the tamper switch once.

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	Lifeline
2	5	Control devices when a magnet trips
3	5	Sends out alarm message when a magnet trips
4	5	Sends alarm messages when tamper is tripped

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 2: Sensor State Polarity

This parameter defines the polarity of the magnet sensor.
Size: 1 Byte, Default Value: 0

Setting	Description
0	Closed when Magnet in proximity
1	Opened when Magnet in proximity

Parameter 3: Visual LED Indications

This parameter defines when the red LED will indicate events. Disabling all indications may extend battery life.
Size: 1 Byte, Default Value: 7 (values 1 + 2 + 4 summarized)

Setting	Description
Byte 1: 00000001	No Indications
Byte 1: 00000010	Open/Close Status Change
Byte 1: 00000100	Wake Up
Byte 1: 00010000	Device Tampering

Parameter 4: Range Test after double click

Allows to enable the activation of a Z-Wave range test with double clicking the tamper switch.
Size: 1 Byte, Default Value: 0

Setting	Description
0	Disabled
1	Enabled

Parameter 5: 2nd Association Group Trigger

This parameter defines the status of the magnet switch that causes sending a BASIC command to all devices of Association Group 2.
Size: 1 Byte, Default Value: 0

Setting	Description
0	Switch after Open and Close
1	Switch after Open
2	Switch after Close

Parameter 6: Command Sent to Devices of Association Group 2

This parameter defines which commands is sent to 2nd Association Group
Size: 1 Byte, Default Value: 2

Setting	Description
0	On
1	Off
2	On and Off

Parameter 7: BASIC command value sent to 2nd Association Group on On event

This is the BASIC command value sent in case of On event.
Size: 1 Byte, Default Value: 255

Setting	Description
0 - 99	Value
255	Value

Parameter 8: BASIC command value sent to 2nd Association Group on Off event

This is the BASIC command value sent in case of Off event.
Size: 1 Byte, Default Value: 0

Setting	Description
0 - 99	Value
255	Value

Parameter 9: Time Delay of On command frame

On command is sent after a delay defined in this parameter.
Size: 2 Byte, Default Value: 0

Setting	Description
0 - 32400	seconds

Parameter 10: Time Delay of Off command frame

Off command is sent after a delay defined in this parameter.
Size: 2 Byte, Default Value: 0

Setting	Description
0 - 32400	seconds

Parameter 11: Delay of Tamper Alarm Cancellation

Time a tamper alarm is delayed.
Size: 2 Byte, Default Value: 0

Setting	Description
0 - 32400	seconds

Parameter 12: Reporting Tamper Alarm Cancellation

This parameter defines if the alarm cancellation event is reported.
Size: 1 Byte, Default Value: 1

Setting	Description
0	Do not send Report
1	Send Report

Technical Data

Dimensions	28x95x35 mm
Hardware Platform	ZGM130S
IP Class	IP 20
Battery Type	1 * 1/2 AA
Device Type	Notification Sensor
Generic Device Class	Sensor Notification
Specific Device Class	Routing Sensor Notification
Network Operation	Reporting Sleeping Slave
Firmware Version	01.00
Z-Wave Version	07.11
Z-Wave Product Id	0371.0002.000B

Supported Command Classes

- Association Grp Info (unsec+s2 Unauth+s2 Auth)
- Device Reset Locally (unsec+s2 Unauth+s2 Auth)
- Zwaveplus Info (unsec)
- Supervision (unsec)
- Configuration (unsec+s2 Unauth+s2 Auth)
- Notification (unsec+s2 Unauth+s2 Auth)
- Manufacturer Specific (unsec+s2 Unauth+s2 Auth)
- Powerlevel (unsec+s2 Unauth+s2 Auth)
- Firmware Update Md (unsec+s2 Unauth+s2 Auth)
- Battery (unsec+s2 Unauth+s2 Auth)
- Wake Up (unsec+s2 Unauth+s2 Auth)
- Association (unsec+s2 Unauth+s2 Auth)
- Version (unsec+s2 Unauth+s2 Auth)
- Multi Channel Association (unsec+s2 Unauth+s2 Auth)
- Security 2
- Transport Service (unsec)

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.