



Aeotec

Recessed Door Sensor 7

SKU: ZW187-C



Quickstart

This is a **secure Alarm Sensor** for **CEPT (Europe)**. Please make sure the internal battery is fully charged.

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

1. Can be embedded inside the wooden door or window. 2. Used to send out notification via Group 1 (Lifeline) when Magnet is away or near. 3. Used to control other Z-Wave device directly via Group 2. 4. Support SmartStart, which makes inclusion more convenient. 5. Support S2, which makes it more secure and reliable.

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.

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.

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	Lifeline group. (1) Device Reset Locally Notification: Issued when Factory Reset is performed. (2) Battery Report: Issued periodically to report the current battery level; Issued when battery becomes low. (3) Sensor Binary Report: Issued when Magnet is away or near. (4) Notification Report (Type=0x06; Event=0x16): Issued when sensor state is changed to be Open Status. (5) Notification Report (Type=0x06; Event=0x17): Issued when sensor state is changed to be Close Status. (6) Notification Report (Type=0x08; Event=0x01): Issued when battery voltage change exceeds 20%. (7) Notification Report (Type=0x09; Event=0x04;Param=0x55): Issued when reset due to Watch-Dog Timeout.
2	5	Issue Basic Set when Magnet is away or near. (The Basic Set Value is determined by Configuration Parameter 3)

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: Binary Sensor Report

Enable/Disable Binary Sensor Report.Allow for backward compatibility to report Binary if Notification Report cannot be used for status changes.

Size: 1 Byte, Default Value: 0

Setting	Description
0	Disable. Sensor Binary Report will NOT be issued via Lifeline when Magnet is away or near.
1	Enable. Sensor Binary Report will be issued via Lifeline when Magnet is away or near.

Parameter 101: Timed battery report

Set how often battery is reported in minutes.

Size: 2 Byte, Default Value: 70

Setting	Description
1 - 14400	Set how often battery is reported in minutes.

Parameter 2: Sensor Reports

Reverse Sensor Reports (both Sensor Binary Report and Notification Report.)

Size: 1 Byte, Default Value: 0

Setting	Description
0	Open Status when Magnet is away, Close Status when magnet is near.
1	Close Status when Magnet is away, Open Status when magnet is near.

Parameter 3: Association Group 2 Settings

Configure the Basic Set value. Determine the Basic Set value to control other Z-Wave devices directly when Magnet is away or near.

Size: 1 Byte, Default Value: 1

Setting	Description
0	Disable completely.
1	Send Basic SET 0xFF when Magnet is away, and send Basic SET 0x00 when Magnet is near.
2	Send Basic SET 0x00 when Magnet is away, and send Basic Set 0xFF when Magnet is near.
3	Only send Basic SET 0xFF when Magnet is away.
4	Only send Basic SET 0x00 when Magnet is near.
5	Only send Basic SET 0x00 when Magnet is away.
6	Only send Basic SET 0xFF when Magnet is near.

Parameter 4: Application Layer Retry

Configure retry number and wait time. The device supports an application retry mechanism when the application of the device has detected a transmission error when Basic Set, Sensor Binary Report or Notification Report (Access Control) message is sent out but fails to result in an ACK or a Supervision Report.

Size: 2 Byte, Default Value: 0

Setting	Description
0 - 1535	The Byte 1 is used to configure the number of retries. The valid value is 0-5. 0 means disable retry. The Byte 2 is used to configure the wait time between retries. The valid value is 0-255. Unit is 100ms.

Parameter 5: Supervision Report Wait Time

Configure Supervision Report Wait Time

Size: 1 Byte, Default Value: 15

Setting	Description
1 - 50	Unit is 100ms. Note:Issuing Basic Set, Sensor Binary Report or Notification Report(Access Control) via association groups uses Supervision encapsulation only if sending commands with S2(or higher security) encapsulation. In other word, this parameter can be configured in any network, but works only in S2 (or higher security) network.

Parameter 81: Led Indicator

Control LED Indicator. Determine whether the LED flash or not when sending Basic Set, Sensor Binary Report, Notification Report (Access Control) or Wake Up Notification.

Size: 1 Byte, Default Value: 3

Setting	Description
0	Completely disable LED.
1	LED quickly flashes only when sending Basic Set, Sensor Binary Report or Notification Report (Access Control).
2	LED activates only when sending Wake Up Notification.
3	LED quickly flashes when sending Basic Set, Sensor Binary Report or Notification Report (Access Control), and activates when sending Wake Up Notification.

Parameter 90: Low battery threshold

Configure the low battery threshold. Induce battery report when battery level is less than or equal to threshold. Forward low battery report.

Size: 1 Byte, Default Value: 30

Setting	Description
10 - 50	10%-50%

Technical Data

Hardware Platform	ZGM130
Device Type	Notification Sensor
Network Operation	Reporting Sleeping Slave
Firmware Version	HW: 187 FW: 1.01
Z-Wave Version	7.11.00
Certification ID	ZC12-19080008
Z-Wave Product Id	0x0371.0x0002.0x00BB
Firmware Updatable	Updatable by Consumer by RF
Color	White
Security V2	S2_UNAUTHENTICATED ,S2_AUTHENTICATED
Frequency	XXfrequency
Maximum transmission power	XXantenna

Supported Command Classes

- Application Status
- Association Grp Info V3

- Association V2
- Battery
- Configuration V4
- Device Reset Locally
- Firmware Update Md V5
- Indicator V3
- Manufacturer Specific V2
- Multi Channel Association V3
- Notification V8
- Powerlevel
- Security
- Security 2
- Sensor Binary V2
- Supervision
- Transport Service V2
- Version V3
- Wake Up V2
- Zwaveplus Info 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.