



AIBASE Z-Wave Door/Window Sensor

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Contact Sensor

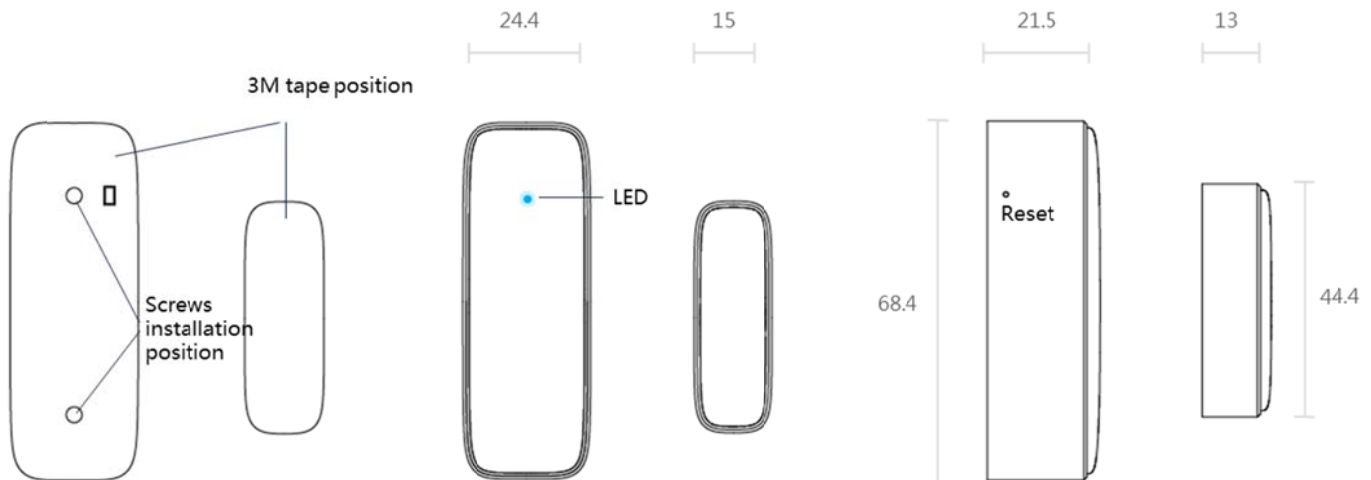
Quick Start Guide

1. Product Introduction

The AIBASE Door/Window sensor is a wireless sensor that is powered by a CR2 battery. The door/window sensor lets you know when a door or window is opened, or closed, and can trigger different actions in response to that open action or close action. This sensor uses the Z-Wave communication module to connect with Z-Wave gateway. This device can be adapted to use in the EU(868.42Mhz), US(908.42MHz) or AU(921.42MHz). The door/window sensor supports the Over The Air (OTA) feature for the product's firmware upgrade. If you want your door/window sensor to be a security device that uses secure/encrypted messages to communicate in a Z-Wave network, then a security enabled Z-Wave controller/gateway is needed.

2. Product Appearance

Product main components and function overview.



- ① Reset: Hold the key for 5s to reset the sensor. After resetting, door/window sensor will send "Device_Reset_Locally" to the main controller and exclude it from the Z-Wave network when release the button. This procedure will reset the sensor to factory default.
- ② LED indicator: If sensor has not been added to controller, the LED will blink for 5 seconds. Once the device is joined to the network successfully, the LED will stay on for 3 seconds.

3. Specification

Detection Technology	Magnetic switch
Detective Range	20mm
Communication Protocol	Z-Wave
Radio Frequency	908.42MHz (US) 868.42MHz (EU) 921.42MHz (AU)
Wireless Range	More than 100m outdoors Approximately 30m indoors (depending on building materials)
Power Source	3V, CR2 *1
Battery Life	2 years
Mounting	Screws or 3M Tape
Operating Temperature	-10°C to 45°C
Operating Humidity	Up to 85% non-condensing
Certifications	CE/FCC, Z-Wave Plus
OTA	Yes
Dimensions (mm):	68.4.(L)*24.4(W)*21.5(H) for Main Body 44.4(L)*15(W)*13(H) for Magnetic Part

4. Features/Capabilities

1. The AIBASE Door/Window Sensor contains a sensor body and a magnet.
2. The AIBASE Door/Window Sensor detects through the separation and combination of the main body and the magnet.
3. Recommend installation distance between the sensor body and the magnet is 10MM.
4. The Sensor also anti-tamper functionality. Once the sensor is moved, it will notify the gateway.
5. The AIBASE Door/Window Sensor is powered by CR2 battery with 2 years battery life.
6. The AIBASE Door/Window Sensor is designed to be mounted on the door or windows.
7. The AIBASE Door/Window Sensor supports low battery alarm function.
8. The AIBASE Door/Window Sensor supports firmware OTA.

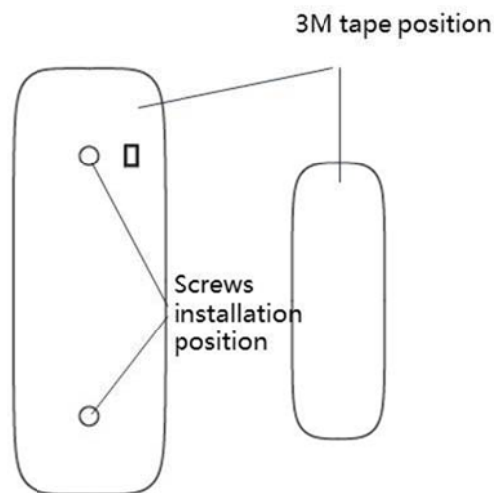
5. Installation Position and Notes

1. The sensor should be used indoors and away from sources of moisture.
2. The magnet and the main sensor must be less than 2cm apart. Main sensor must be affixed to the door or window and the magnet must be affixed to the frame. The magnet and the main sensor must separate when the door or window is opened.
3. The sensor should not be mounted on a metal frame.

6. Product Installation

This product can be mounted by screws or 3M adhesive tape. Install it according to the diagram below:

- ① Push the bracket upwards to separate it from the body, then fix the bracket on the door/window by screw or 3M tape.



- ② Take off the bracket on the back, install battery into the body. The LED will slowly flash 3 times.
- ③ Be careful when installing the bracket back onto the body. The best approach is from the side.
- ④ Stick the magnet onto the moving part of the door/window, no further than 20mm from the sensor.

7. Product Usage

Function of Action Button:

Door/Window Sensor is not in the Z-Wave network:

Trigger	Description
Power On	LED will keep on 1 second.
Short press 1 time (within 1 second)	<ol style="list-style-type: none">1. LED will blink fast for 25 seconds, send Node Info frame.2. Add for inclusion:<ol style="list-style-type: none">1. Insert the CR2 battery.2. Set the Z-Wave network main controller into learning mode.3. Triggering this action button.4. If the addition for inclusion is successful, the LED will blink fast and then keep on 3 seconds. Otherwise, the LED will blink 25 seconds and then turn off, in which case you need to repeat the process from step 2.

Door/Window Sensor is in the Z-Wave network:

Trigger	Description
Power On	Send battery report to associated node
Short press one time (within 1 second)	<ol style="list-style-type: none">1. Led will keep on for 2 seconds2. Remove for exclusion;<ol style="list-style-type: none">1. Insert the CR2 battery.2. Set the Z-Wave network main controller into exclusion mode.3. Triggering this action button.If the remove for exclusion is successful, the LED will blink fast and turn off. Otherwise, the LED will keep solid for 2 seconds and then turn off, in which case you need to repeat the process from step 2.
Short press 3 time (within 1 second)	<ol style="list-style-type: none">1. LED will blink one time; sending wake up notification cc.
Press and hold for 5 seconds	<p>Reset Door/Window Sensor to factory Default: LED will blink fast for 5 seconds and then keep solid for 3 seconds, after that Door/Window Sensor will send "Device_Reset_Locally" to the main controller and exclude from the Z-Wave network.</p> <p>Use this procedure only in the event that the network primary controller is missing or otherwise inoperable.</p>

Caution:

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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Low voltage alarm to remind changing battery.

This product has low voltage detection reminder, When the battery voltage is in low status, the detector will give out low battery signal to controller.

8. Attention

1. If the sensor needs to be cleaned, remove power and use a soft cloth with a little alcohol and wipe down the device.
2. This product is just for indoor use only.
3. Replace the battery immediately when the low battery warning is indicated.
4. Product can be included and operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers and/or other applications. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.
5. If you want your product to be a security device that use secure/encrypted message to communicate in a Z-Wave network, then a security enabled Z-Wave controller is needed.

9. Configuration Command

9.1. SECURITY AND NON-SECURITY FEATURES OF DOOR/WINDOW SENSOR IN Z-WAVE

NETWORK

1. The function of the Door/Window Sensor as a security and non-security device is identical.
2. When a node includes into a S2 Z-Wave network, the node supports S2 authenticated, S2 unauthenticated class and so do the supported CCs.
3. Commands List

	Included Non-Secure Network	Included Secure Network
Non-secure supported Command Classes	COMMAND_CLASS_ZWAVEPLUS_INFO_V2 COMMAND_CLASS_SECURITY0_V1 COMMAND_CLASS_SECURITY2_1 COMMAND_CLASS_TRANSPORT_SERVICE_V2 COMMAND_CLASS_ASSOCIATION_V2 COMMAND_CLASS_ASSOCIATION_GRP_INFO_V1 COMMAND_CLASS_VERSION_V2 COMMAND_CLASS_MANUFACTURER_SPECIFIC_V2 COMMAND_CLASS_DEVICE_RESET_LOCALLY_V1 COMMAND_CLASS_POWERLEVEL_V1 COMMAND_CLASS_CONFIGURATION_V1 COMMAND_CLASS_BATTERY_V1 COMMAND_CLASS_NOTIFICATION_V8 COMMAND_CLASS_WAKE_UP_V2	COMMAND_CLASS_ZWAVEPLUS_INFO_V2 COMMAND_CLASS_TRANSPORT_SERVICE_V2 COMMAND_CLASS_SECURITY0_V1 COMMAND_CLASS_SECURITY2_V1

	COMMAND_CLASS_SUPERVISION_V1 COMMAND_CLASS_FIRMWARE_UPDATE_MD_V4	
Security Supported Report Command Classes		COMMAND_CLASS_ASSOCIATION_V2 COMMAND_CLASS_ASSOCIATION_GRP_INFO_V1 COMMAND_CLASS_VERSION_V2 COMMAND_CLASS_MANUFACTURER_SPECIFIC_V2 COMMAND_CLASS_DEVICE_RESET_LOCALLY_V1 COMMAND_CLASS_POWERLEVEL_V1 COMMAND_CLASS_CONFIGURATION_V1 COMMAND_CLASS_BATTERY_V1 COMMAND_CLASS_NOTIFICATION_V8 COMMAND_CLASS_WAKE_UP_V2 COMMAND_CLASS_SUPERVISION_V1 COMMAND_CLASS_FIRMWARE_UPDATE_MD_V4

9.2. NOTE FOR SPECIAL COMMANDS

9.2.1 Association Command

Door/Window Sensor supports two association groups.

Grouping Identifier	Max Nodes	Send Commands
Group 1	0x05	1. Notification Report. Sensor will send Notification Report when the supported event is triggered. 2. Battery Report. Sensor will send Battery Report when the battery level is low and the battery report's value is 0xFF. 3. Device Reset Locally.
Group 2	0x05	1. Basic Set Sensor will send Basic Set when the sensor body and magnet removed or combined.

9.2.2 Basic Command

There is no relevant commands are available for mapping.

9.2.3 Notification Command

1. Notification Supported Report;

There are three types notifications are supported, Access Control (0x06), Home Security (0x07) and Power Management (0x08).

2. Event Supported Report;

Access Control: Window/Door is open (0x16), Window/Door is closed (0x17).

Home Security: Tampering, Product covering removed (0x03), Previous Events cleared (0x00).

Power Management: Replace Battery Soon (0x0a), Replace Battery Now (0x0b), Previous Events cleared (0x00).

3. How to trigger the different notifications;

Access Control:

Window/Door is open (0x16): the separation of the main body and the magnet.

Window/Door is closed (0x17): the combination of the main body and the magnet.

Home Security:

Tampering, Product covering removed (0x03): the temper button is released.

Previous Events cleared (0x00): the temper button is pressed.

Power Management:

Replace Battery Soon (0x0a): When Door/Window sensor first detect the battery level is lower than the level of low battery (see the configuration parameter NO.10 below).

Replace Battery Now (0x0b): When Door/Window sensor first detect the battery level is lower than 5%.

Previous Events cleared (0x00): When Door/Window sensor powered by a new battery (>2.8V).

9.2.4 Configuration Command

Door/Window Sensor offers a wide variety of advanced configuration settings. Below parameters can be accessed from main controllers configuration interface.

NOTE: ALL NUMBERS BELOW ARE DECIMAL.

Parameter No.10 Level of low battery

This parameter defines a battery level as the “low battery”.

Available settings: **0-50 (0% - 50%)**

Default setting: **10 (10%)**

Parameter size: **1[byte]**

Parameter No.14 Enable/Disable BASIC SET command

Door/Window Sensor can send BASIC SET command to nodes associated with group 2.

0 – Disable.

1 – Enable.

Default setting: **0**

Parameter size: **1 [byte]**

Parameter No.15 Value of the BASIC SET

Door/Window Sensor can reverse its value of BASIC SET when the magnet is triggered.

0 –Send BASIC SET VALUE = 255 to nodes associated with group 2 when door/window is opened.

Send BASIC SET VALUE = 0 to nodes associated with group 2 when door/window is closed.

1 –Send BASIC SET VALUE = 0 to nodes associated with group 2 when door/window is opened.

Send BASIC SET VALUE = 255 to nodes associated with group 2 when door/window is closed.

Default setting: **0**

Parameter size: **1[byte]**

Parameter No.254 Enable/disable the configuration command

Lock/unlock all configuration parameters.

0 – Unlock.

1 – Lock.

Default setting: **0**

Parameter size: **1[byte]**