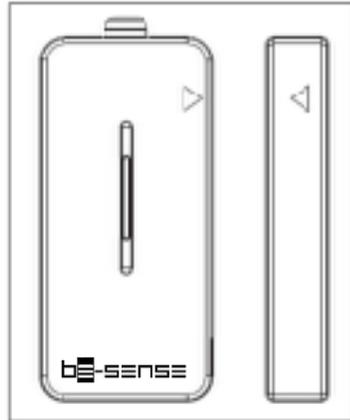




Zwave Plus Window/Door Sensor Specification



I. Introduction

IM20 Zwave is a wireless door sensor regarded as an important part of wireless alarm panel. It can immediately detect open or close of door/window, has anti-tamper and battery level real time detection functions. With exquisite design, it will perfectly match up with your home decoration and integrate into installation environment. As it is a separation triggered door sensor, when the magnet part and main body are separate, it will send alarm signal to Control Panel and then Control Panel's buzzer rings and will call or send message to Alarm Central Station or user phones.

- Adopt imported high sensitivity magnetic sensor, with stable and reliable performance
- Special magnet position design, assure its high induction property toward metal door/window
- Ultra-low power consumption and extra-long standby time, battery life is up to 3 years
- Low battery alert

Model No. : IM20 Zwave

Communication Protocol : Zwave Plus.

Working Voltage : 3VDC (2PCS AAA alkaline batteries)

Working Current : Static current \leq 9 μ A; transmit current \leq 35mA

Indoor Transmit Distance : \geq 30m

Induction Distance : \geq 10mm

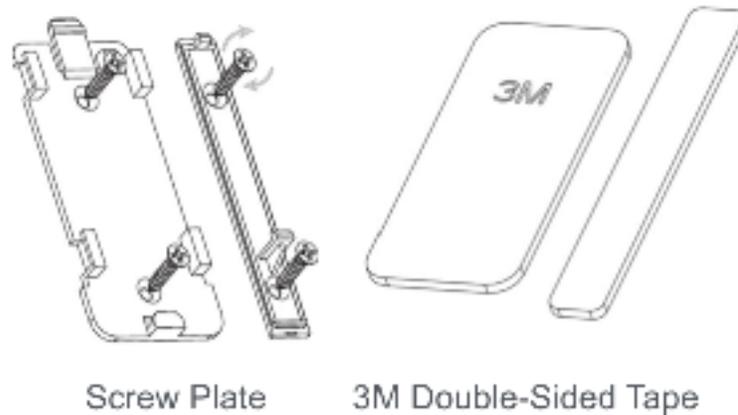
Alarm Indicator : LED status indicator

Output Signal Type : Alarm report, tamper report, battery level status.

Working Humidity & Temperature : -10°C~50°C; \leq 95%RH no condensation

Dimension : 80*50*20mm (L*W*H)

Screw plate and 3M double-sided tape are included.



II. Network Inclusion/ Exclusion

The sensor must be added to the Zwave network prior to use. To include the sensor in a network both the sensor and the Network controller or HUB must be in inclusion mode at the same time.

Add : start by placing the controller in inclusion mode. Activate the inclusion mode at the sensor pressing the tamper switch 3 times, then the door sensor will stay in enrollment state.

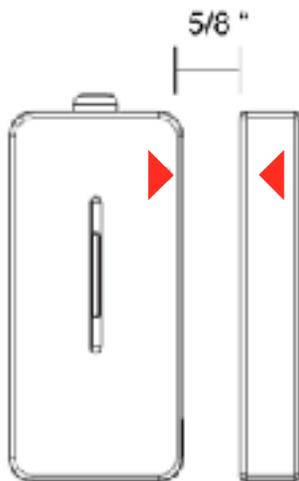
Wait about 15-30 seconds while the sensor and controller finished the inclusion process.

Remove: enter the Exclusion Mode on the controller, and press the tamper switch 3 times, then the door sensor will be removed after 15-30 seconds.

III. Restore Factory Settings

Press the tamper switch for 6 times to restore factory settings.

IV. Installation



The edge of the magnet must align with the line on the sensor, AND the magnet must locate next to the arrow on the sensor. Maximum gap between the magnet and the sensor is 5/8". If the magnet is not located following these rules, the sensor may not get activated.



Here are some instructions that should help you get our Motion Sensor device handler to work in SmartThings.

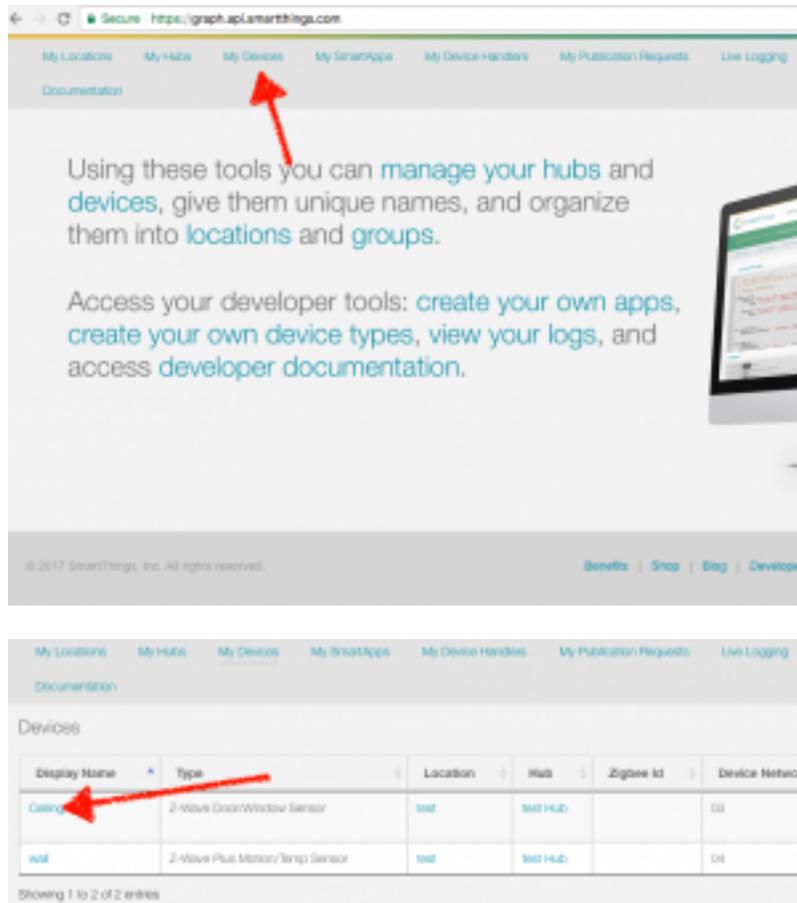
Why update the handler?

- **Customized to avoid false alarms**
- **Generate Tamper alerts**
- **Battery indicator**
- **Colors and Background improved**

How to ADD a device Handler for the BeSense Motion Sensor?

CHANGE THE DEVICE HANDLER TO “Z-WAVE PLUS DOOR/WINDOW SENSOR”

1. Add the devices to your SmartThings hub by clicking on **Add thing > + Connect New Device** in your app. Press and release the tamper switch button on the **sensor three** times quickly.
2. Log in here with the same username and password you use for your SmartThings app: <https://graph.api.smarthings.com/login/auth>
3. Click on **My Devices** Handlers in the top menu and **select your included Device**.



4. Next, scroll to the bottom and click Edit

Data	No data found for device
Raw Description	zw:S type:0701 mfr:0214 prod:0002 model:0002 ver:5.3
Current States	<ul style="list-style-type: none">battery: 100 %contact: closedcheckinterval: 28920
Events	List Events
Installed By	

5. Choose **“Z-Wave Plus Door/Window Sensor”** from the TYPE option (in our case is Motion we don't sense Temperature but smartThings joined both in the same handler).

Type *

Z-Wave Door/Window Sensor

- Z-wave Metering Dimmer
- Z-Wave Metering Switch
- Z-Wave Motion Sensor
- Z-Wave Plus Door/Window Sensor
- Z-Wave Plus Motion/Temp Sensor
- Z-Wave Relay
- Z-Wave Remote
- Z-Wave Sensor
- Z-Wave Siren
- Z-Wave Smoke Alarm

6. Now click **Update**

Group

You should now see this device type in your list of Devices.

And that should be it! I hope this was helpful in simplifying the process behind custom device handlers. Feel free to share your questions and feedback to info@besense-iot.com

BeSense Z-Wave

Command Class Specification

When the door sensor is opened or recovered, it will send “Binary Sensor Report” and “Notification Report” commands to the device under Lifeline group.

When door sensor is opened:

Sensor Binary Report, Value = 0xFF, Type = 0x0C

Notification Report, Notification Type = 0x07, Event = 0x08 When door sensor is recovered:

Sensor Binary Report, Value = 0x00, Type = 0x0C Notification Report, Notification Type = 0x06, Event = 0x16

When tamper switch is triggered or recovered, the door sensor will send “Sensor Binary Report” and “Notification Report” command to the device under Lifeline group.

Tamper Triggered:

Sensor Binary Report, Value = 0xFF, Type = 0x08

Notification Report, Notification Type = 0x07, Event = 0x00 Tamper recover (press tamper switch for 0.5s):

Sensor Binary Report, Value = 0x00, Type = 0x08 Notification Report, Notification Type = 0x07, Event = 0x00

Association Group2

If there is any device under Association Group2, the door sensor will send “BASIC SET” command to control those devices when the door sensor is triggered. For example: when the door

sensor is triggered, it sends adjustable parameter “BASIC SET” command to a lamp under Group2, you can adjust the lamp’s luminance through the parameters of this command; if the set light-up time out (see the Configuration Description), the sensor will send “BASIC SET” command to turn-off the lamp.

When sensor is triggered:

[Command Class Basic , Basic Set, Value = 0xFF(default 0xFF, configurable, see the Configuration Description)] When light-up time out:

[Command Class Basic , Basic Set, Value = 0x00]

Configuration Description

a) “Basic Set” configuration

If there is any device under Association Group2, the door sensor will send “Basic Set = value” command to control that device when the door sensor is opened. “Value” configuration rule is as below:

Function	Parameter	Byte	Range	Default
Basic Set Level	1	1	1-100 or 0xFF	0xFF

b) Turn Off Light Time Configuration

If there is any device under Association Group2, the door sensor will send “Basic Set = value” command to Group2, and send “Basic Set = 0x00” command to turn-off light after “t” seconds, Set value = “t”, means to send Basic Set command after “t” seconds.

Function	Parameter	Byte	Range	Default
Turn Off Light Time	2	1	1-120	20

c) PIR Sensor Alarm Elimination Time Configuration

Min set time is 5s. If the configuration is 1, that means it will eliminate alarm after 1*5s (5 seconds), if t, will eliminate alarm after t*10s.

Function	Parameter	Byte	Range	Default
Alarm Elimination Time	3	1	1-120	20

Z-Wave Supportive Commands

Generic Device Type = GENERIC_TYPE_SENSOR_BINARY
Specific Device Type = SPECIFIC_TYPE_ROUTING_SENSOR_BINARY

Support Command Class =

COMMAND_CLASS_ZWAVEPLUS_INFO_V2

COMMAND_CLASS_ASSOCIATION_V2

COMMAND_CLASS_WAKE_UP_V2

COMMAND_CLASS_BATTERY

COMMAND_CLASS_ZWAVEPLUS_INFO_V2

COMMAND_CLASS_ASSOCIATION_GRP_INFO

COMMAND_CLASS_NOTIFICATION_V4

COMMAND_CLASS_SENSOR_BINARY_V2

COMMAND_CLASS_MANUFACTURER_SPECIFIC_V2

COMMAND_CLASS_VERSION_V2

COMMAND_CLASS_POWERLEVEL

COMMAND_CLASS_DEVICE_RESET_LOCALLY

Commands to Control Other Devices: COMMAND_CLASS_BASIC