X32

Zwave PLUS Ceiling PIR Sensor

I. Introduction
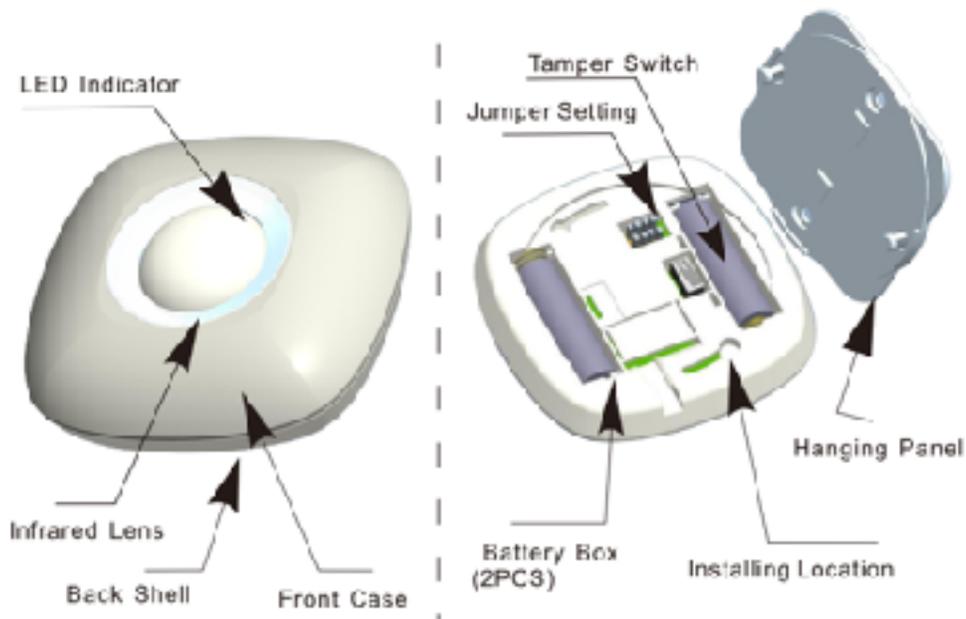
X32_ZWAVE wireless PIR sensor adopts latest detection & induction technologies including Energy Accumulation Management, Dynamic Random Time Division Technology etc. And it combines multi-zones comprehensive induction calculation and uses advanced MCU digital processing technology. Besides, it has the advantages of stable & reliable detection, low false alarm and pet immune.

- Special Fresnel lens with patented technology, built-in far infrared wave with above 95% transmittance rate

- Adopt original imported Heimann sensor from Germany, with high sensitivity & low false alarm

- Real anti-visible light technology, no false alarm under 6500LUX strong light interference With sealed induction cavity design, prevent false alarm caused by thermal current interference

- Configurable detection sensitivity, suitable for variety of detection environments With fuzzy logic algorithm & fuzzy recognition technology, pet-immune Ultra-low power consumption, 2 years of battery working life

info@besense-iot.com

Detection Area

Side-looking

2.5~4.0m

Max.6m
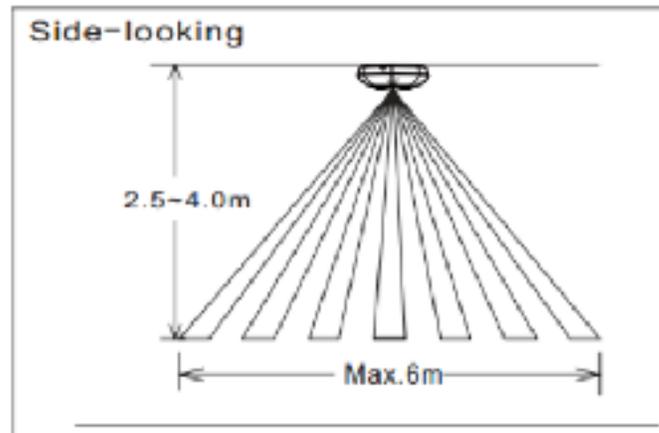
Name	Parameter
Model No.	IX32_Zwave
Communication Protocol	ZWAVE
Frequency	868MHz / 908MHz
Indoor Transmit Distance	≥30m
Working Voltage	3VDC 2PCS LR6 1.5V alkaline battery
Working Current	Static current≤16uA; transmit current≤35mA
Detection Distance	6m @ 25℃
Detection Area	See the diagram below
Alarm Indicator	LED status indicator
Output Signal Type	Alarm report, tamper report, battery level status, heartbeat report
Working Humidity & Temperature	-20℃~-50℃; ≤95%RH no condensation
Infrared Area	12+12+6 (typical)
Max Coverage	Diameter 6m
Installation Height	2.5~4m (8.2~-13.1 feet)
Dimension	100*100*33.5mm (L*W*H)

LED Indicator
Tamper Switch
Jumper Setting
Infrared Lens
Back Shell
Front Case
Battery Box (2PC3)
Installing Location
Hanging Panel

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.

info@besense-iot.com

be-sense

IX 32 has the following 3 types of pulse optional and 3 operates mode:

Pulse 1: The detector gives an alarm when it checks one pulse.

Pulse 2: The detector gives an alarm when it checks two pulses.

**Pulse 3**: The detector gives an alarm when it checks three pulses.

The pulse count is higher and the sensitivity is lower, but can reduce false alarm.

PLUS1— 1 pulse (Default)
PLUS2— 2 pulses
PLUS3—3 pulses
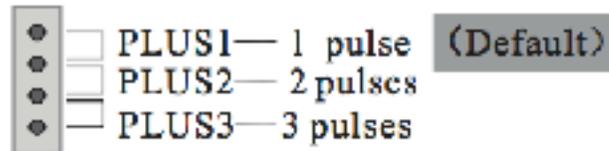
Test Mode (High Battery consumption) : Alarm will be triggered each 5s.

Power-save Mode (Recommended): Alarm will be triggered again with above 3min interval from its first alarm. After triggered, it will send alarm elimination signal to the relevant device in at least 3 minutes.

Code Mode: without any function

FULL— Test Mode
NORM— Power Save Mode (Default)
CODE— Code Mode

info@besense-iot.com

be-sense
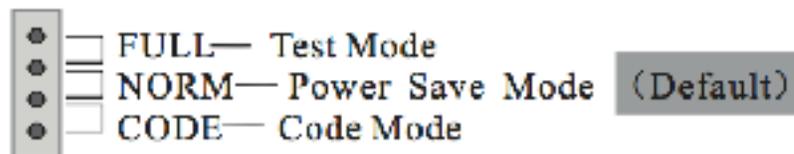
Don't install the motion sensor:

- Under Sunshine
- Face to Hot/cold Sources
- On unstable place or face to movement things

bE-SENSE

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**
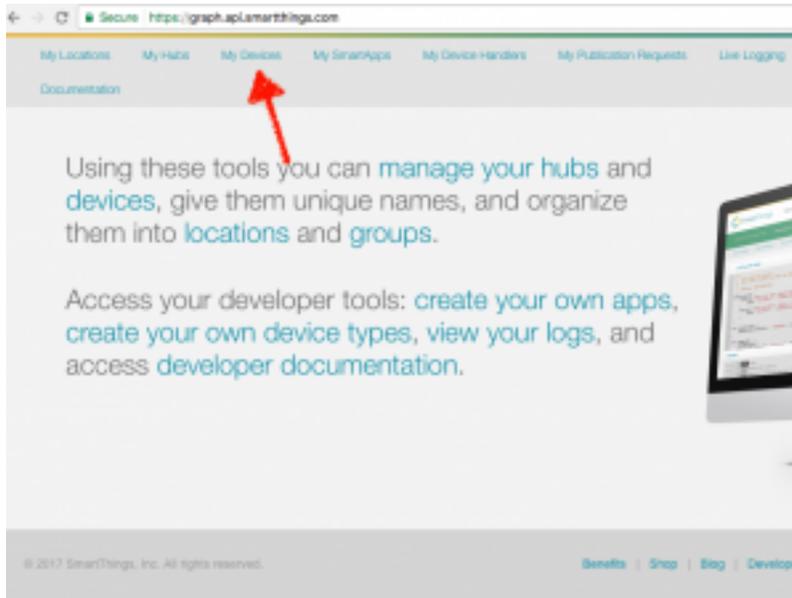
- **Colors and Background improved**

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

CHANGE THE DEVICE HANDLER TO "Z-WAVE PLUS MOTION 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.

info@besense-iot.com

be-sense

2. Log in here with the same username and password you use for your SmartThings app: **https://graph.api.smartthings.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	• battery: **100 %** • contact: **closed** • checkInterval: **28920**
Events	List Events
In____ By	

Edit Delete

5. Choose **"Z-Wave Plus Motion/Temp 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

Update Delete

bE-sEnsE

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 Lifelinegroup.
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 Deice 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

info@besense-iot.com