zipato®

PIR MOTION SENSOR

QUICK INSTALLATION GUIDE
v1.0

INTRODUCTION

Zipato PIR Motion Sensor is a passive infrared detector or physical sensor, the sensor doesn't emit any energy, but only passively receive and detect infrared radiation. Sensor sends messages via Z-Wave network to the Z-Wave main controller. In the communication between the PIR and Z-Wave main controller, PIR sensor can only send messages and not receive them. When sensor is triggered, it will send message to the main controller and associate devices to work through the Z-Wave main controller. Sensor isbattery powered, small and can be installed easily.
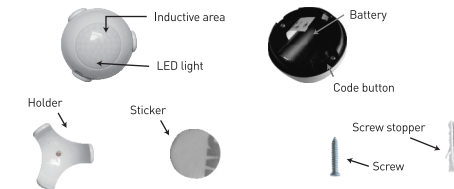
SPECIFICATION

Motion detection
Measure the light sensitivity
Compatible with 300 and 500 series
Range: up to 50m outdoor; 30m indoor
Power supply: CR123A x 1
Standby current: 16uA
Battery life: 1 year
Protocol: Z-Wave Plus
Detection range: 7 meters
Viewing angle: 110 degree
Operation temperature: 0 - 40 °C
Storage temperature: 0 - 60 °C
Size: 45 x 45 x 48 mm

1.

TECHMICAL INFORMATION

• Use passive IR sensor to detect what is mocing
• When the sensor is triggered, LED light will flash in the detection area
• When there are people or animals moving in detection area, PIR sensor will send alarm messages to the Z-Wave main controller
• Compatible with any Z-Wave main controller

PRODUCT CONFIGURATION

Inductive area

LED light

Battery

Code button

Holder

Sticker

Screw stopper

Screw

PACKAGE CONTENT

PIR Motion Sensor - 1pc
Holder - 1pc
Battery - 1pc
Screw stopper - 2pcs

Probe - 1pc
User manual - 1pc
Screw - 2pcs

2.

INSTALLATION STEPS

• Holder installation
• Battery installation
• Fix PIR on the holder

HOLDER INSTALLATION

• OPTION 1

Fix the holder with screws and screw stopper

• OPTION 2

Fix the holder with double-sides sticker

BATTERY INSTALLATION

FIX PIR ON THE HOLDER

DETECTION RANGE AND WORKING CONDITIONS

PIR Sensor has to be installed in a corner of the room or perpendicularly to the
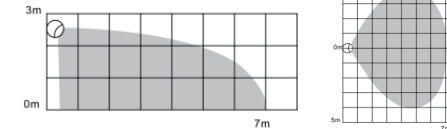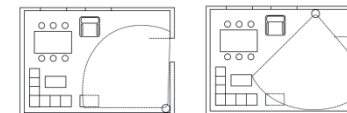
3.

doors. Actual detection range of the sensor can be influenced by environment conditions. If there are false alarms, check for any moving objects withing the sensor's detection area, such as trees blowing in the wind, cars passing by, etc. False motion alarms may be caused by moving masses of air and heat as well. If sensor keeps on reporting the false alarms, install the sensor in another place.

Work schematic diagram of PIR:

3m

0m

7m

WORKING CONDITIONS

If there is someone moving withing the detection area, alarm will be triggered and LED lights will flash in the inductive area at the same time.

4.

LED STATUS

1. When sensor is triggered, LED flashes red once.
2. When battery is installed, LED will flash red 5 times
3. Quickly, triple click on the code button to add the PIR sensor to the Z-Wave network or delete PIR sensor
4. Press the code button for 10 seconds, the PIR sensor will be restored to factory default settings
5. In normal conditions, the LED light is off
6. Press the button once to wakeup the device and send wakeup notification to controller, LED flashes red once

ADDING TO Z-WAVE NETWORK

1. Remove the sensor cover
2. Make sure the sensor is powered
3. Set Z-Wave controller or Z-Wave Gateway into inclusion mode
4. Press the button 3 times within 1.5 seconds and the device will enter inclusion mode. LED will flash on and off 5 times.

REMOVING FROM Z-WAVE NETWORK

1. Remove the sensor cover
2. Make sure the sensor is powered
3. Set Z-Wave controller or Z-Wave Gateway into exclusion mode
4. Press the button 3 times within 1.5 seconds and the device will enter exclusion mode.

RESTORE TO DEFAULT SETTINGS

Reset procedure will delete all information on the Z-Wave network and Z-Wave controller, or Z-Wave gateway.

1. Remove the sensor cover
2. Make sure the sensor is powered
4. Press the button for 10 seconds, LED will blink once
5. Release the button

WAKEUP MOTION DETECTOR

You can press the button once to wake up the device and send wakeup notification to controller. LED will blink once.

ASSOCIATIONS (Association Command Class Version 2)

This sensor supports 4 association groups; each group suppoerts max 4 associated nodes. This has the effect that when the sensor is triggered, all devices associated with the sensor will receive the relevant reports.

GROUP 1 is lifeline service that is assigned to sensor status - Open/Close. It enables the sensor to send reports and readings to Z-Wave controller or Z-Wave Gateway whenever the sensor is triggered. This group supports:
NOTIFICATION_REPORT_V4
SENSOR_BINARY_REPORT_V2
SENSOR_MULTILEVEL_REPORT_V7
BATTERY_REPORT_DEVICE_RESET_LOCALLY_NOTIFICATION

GROUP 2 allows sending control commands to associated devices such as relay module, lighting, etc. This association group is configured through the advanced parameters no. 2, 3, 5 and 8. This griup supports: BASIC_SET

GROUP 3 allows sending notifications to associated devices int his group. This group supports: NOTIFICATION_REPORT_V4

GROUP 4 allows sending sending Sensor Binary Report to associated devices in this group. This group supports: SENSOR_BINARY_REPORT_V2

Parameter number: 1
Parameter size: 1 byte
Available settings: 8 ~ 255
Default setting: 12

ADVANCED CONFIGURATION

The follwing information is for someone that has some experience in setting up a Z-Wave system or someone that has computer software running a Z-Wave controller or Gateway.

1. SENSITIVITY LEVEL SETTING

This parameter defines the sensitivity of PIR sensor. It's recommended to test the sensor with moevements from a farthest end of the coverage area at the first time of use. If movements cannot be detected sensitively, simply adjust the sensitivity level with this parameter. This parameter can be configured with the value of 8 through 255, where 8 means high sensitivity and 255 means low sensitivity.

Function: Sensivity Level Setting
Parameter size: 1 byte
Parameter number: 1
Available settings: 8 ~ 255
Default settings: 12

2. ON / OFF DURATION

This parameter determines how long the associated devices should have ON status. For instance, if this parameter is set to 30 (sec), the PIR sensor will send a BASIC_SET command to associated device with valu BASIC_SET level if PIR sensor is triggered and associated device will be turned on 30 seconds begore it's turned off. This parameter value must be large as Parameter #. If user set this parameter to default by Configure CC, the parameter # will be set to default value.

Function: ON / OFF duration setting
Parameter size: 2 byte
Parameter number: 2
Available settings: 5~600 (seconds)
Default setting: 30

3. BASIC SET LEVEL

BASIC_SET command will be sent when PIR sensor is triggered. The receiver will take it into consideration; for instance, if a lamp module is receiving the BASIC_SET command of which value is decisive as to how bright of dim level of lamp module shall be.

Function: Basic Set Level
Parameter size: 1 byte
Parameter number: 2
Available settings: 0,1 ~ 99 or 255 0 - OFF, Alarm cancelling or turning device off
　　　　　　　　　　1 ~ 99 or 255 - ON (Binary Switch Device)
　　　　　　　　　　Dim level (Multilevel Switch Device)

Default setting: 255

4. PIR DETECTION FUNCTION ENABLED / DISABLED

This parameter can enable or disable the PIR sensor detecting function.
Function: Enabled / Disabled PIR function

Parameter size: 1 byte
Parameter number: 4
Available settings: 0 (disable) or 255 (enable)
Default setting: 255

5. AMBIENT ILLUMINATION LUX LEVEL

This parameter can set Lux value which determines when the light sensor is activated. If the ambient illumination level falls bellow this value and a person moves across or within the detection area, PIR sensor will send Z-Wave ON command (i.e. BASIC_set (value = parameter 3) to an associated device and activate it.

Function: Lux Level Set
Parameter size: 2 byte
Parameter number: 5
Available settings: 0~1000 (Lux)
Default setting: 100 (Lux)

6. RE-TRIGGER INTERVAL SETTING

This parameter can be used to adjust the interval of being re-triggered after the PIR sensor has been triggered. This parameter value must be less than Paramater #2. If user sets this parameter to default by Configure CC, the parameter #2 will be set to default value.

Function: Re-trigger interval setting
Parameter size: 1 byte

Parameter number: 6
Available settings: 1~8 (s)
Default setting: 8

7. LIGHT SENSOR POLLING INTERVAL

This parameter can set the light sensor to measure ambient illumination level interval time. NOTE: This value must be less than Wakeup Interval Time!

Function: Light Sensor Polling Interval
Parameter size: 2 byte
Parameter number: 7
Available settings: 60~3600 (seconds)
Default setting: 180 (s)

8. LUX LEVEL FUNCTION ENABLE

If this parameter is set to "1" and when Lux level is less than the value defined by parameter #5, PIR sensor will send a BASIC_SET command frame (i.e. BASIC_SET (value = parameter 3) to an associated device and activate it. If Lux level is greater than the value defined by parameter #5, PIR sensor will not send BASIC_SET command frame.

Function: Lux Level Enable
Parameter size: 1 byte
Parameter number: 8
Available sttings: 0, 1
Default setting: 0

9. AMBIENT ILLUMINATION LUX LEVEL REPORT

This parameter defines by how much Lux level must change in Lux to be reported to the main controller.

Function: Lux Level Report
Parameter size: 2 byte
Parameter number: 9
Available settings: 0~1000 (Lux)
Default setting: 1

NOTIFICATION COMMAND CLASS

Once the sensor detects a movement, it will send NOTIFICATION_REPORT and SENSOR_BINARY_REPORT to the nodes of lifeline to inform there is an intrusion event. When the movement is stopped, NOTIFICATION_REPORT and SENSOR_BI-NARY_REPORT will be sent again to the nodes in lifeline.For compliant Z-Wave 300 seires, there is also the Binary Sensor Command Class.

Notification Report Command:

Event prsent:
Command class: COMMAND_CLASS_NOTIFICAITON
Command: NOTIFICTION_REPORT
Notification type: NOTIFICATION_TYPE_HOME_SECURITY
Event: NOTIFICATION_EVENT_HOME_SECURITY_MOTION_DETECTION_
    UNKNOWN_LOCATION

Event clear:
Command class: COMMAND_CLASS_NOTIFICAITON
Command: NOTIFICTION_REPORT
Notification type: NOTIFICATION_TYPE_HOME_SECURITY
Event: NOTIFICATION_EVENT_HOME_SECURITY_NO_EVENT

Binary Sensor Report Command:

Event present:
Command class: COMMAND_CLASS_SENSOR_BINARY
Command: SENSOR_BINARY_REPORT
Sensor type: SENSOR_MOTION
Value: 0xFF

Event clear:
Command class: COMMAND_CLASS_SENSOR_BINARY
Command: SENSOR_BINARY_REPORT
Sensor type: SENSOR_MOTION
Value: 0x00

MULTILEVEL SENSOR

PIR Motion Sensor supports ambient luminance meassurement, the scale is LUX. And the default Multilevel sensor is luminance too. The settings of luminance sensor measurement are listed under "Advanced Configuration"

WAKEUP COMMAND CLASS

Majority of time sensor is in sleep status in order to conserve battery life.
The minimum wakeup interval is 300s.
The maximum wakeup interval is 16,777,200s (about 194 days)
Allowable interval among each wakeup interval is 60seconds, such as 360, 420, 480...
NOTE: The deault value is 12 hours. The value is longer, the battery life is greater.

BATTERY CHECK COMMAND:

The users can also enquire the battery status of the motion sensor by sending

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BATTERY_GET command. Once the sensor receives the command, it will return BATTERY_REPORT command. The motion sensor will send BATTERY_LEVEL = 0xFF command to the Z-Wave controller to inform that the motion sensor is in dead battery status, otherwise BATTERY_LEEL value range is 0% to 100%.

COMMAND CLASSES

This sensor supports following Command Classes:
COMMAND_CLASS_ZWAVEPLUS_INFO (V2)
COMMAND_CLASS_VERSION (V2)
COMMAND_CLASS_MANUFACTURER_SPECIFIC (V2)
COMMAND_CLASS_DEVICE_RESET_LOCALLY (V1)
COMMAND_CLASS_POWERLEVEL (V1)

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The term "ZIPATO Hardware Product" DOES NOT include any software applications or programs.

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This warranty shall not apply to problems resulting from: (a) unauthorized alterations or attachments; (b) negligence, abuse or misuse, including failure to operate the product in accordance with specifications or interface requirements; (c) improper handling; (d) failure of goods or services not obtained from ZIPATO or not subject to a then-effective ZIPATO warranty or maintenance agreement; (e) improper use or storage; or (f) fire, water, acts of God or other catastrophic events.

This warranty shall also not apply to any particular product if any ZIPATO serial number has been removed or defaced in any way.
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The Limited Product Warranty Period starts on the date of purchase from ZIPATO. Your dated sales or delivery receipt, showing the date of purchase of the product, is your proof of the purchase date. You may be required to provide proof of purchase as a condition of receiving warranty service. You are entitled to warranty service according to the terms and conditions of this document if a repair to your ZIPATO branded hardware is required within the Limited Product Warranty Period.
(Other than in respect of products for domestic use (in particular those listed in the first and last boxes in the table below), this Limited Product Warranty extends only to the original end user purchaser of this ZIPATO Hardware Product and is not transferable to anyone who obtains ownership of the ZIPATO Hardware Product from the original end-user purchaser.

PRODUCT WARRANTY PERIOD

Product type: Water sensor
Product warranty period: One (1) year

IMPORTANT
The content of "Product Type" listed above is subject to change; please refer to the www.zipato.com for latest update.

PERFORMANCE OF THE LIMITED PRODUCT WARRANTY

If a product defect occurs, ZIPATO's sole obligation shall be to repair or replace any

defective Zipato Hardware Product free of charge provided it is returned to an Authorized ZIPATO Service Centre during the Limited Warranty Period. Such repair or replacement will be rendered by ZIPATO at an Authorized ZIPATO Service Centre. All component parts or hardware products that are replaced under this Limited Product Warranty become the property of ZIPATO. The replacement part or product takes on the remaining Limited Warranty Period of the replaced part or product. The replacement product need not be new or of an identical make, model or part; ZIPATO may in its discretion replace the defective product (or any part thereof) with any reconditioned equivalent (or superior) product in all material respects to the defective product.

WARRANTOR
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DECLARATION OF CONFORMITY

CE

The manufacturer Tri plus grupa d.o.o declares under our sole responsibility that the product:

Marketing model: PIR Motion Sensor
Regulatory model: ne-nas-pd01z
Trade/Brand name: Zipato

is in conformity with the standard(s) reckognized as giving presumption of compliance with the essential requirements in the specified European Directive.

The following harmonized standards were applied:

EN 300 220-1 V2.4.1:2012
EN 300 220-2 V2.4.1:2012
EN 301 489-1 V1.9.2 (2011-09)
EN 301 489-3 V1.6.1 (2013-08)
EN 62479:2010
EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013

Changes or modifications not expressly approved by Tri plus grupa d.o.o. for compliance could void the user's authority to operate the equipment.

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