



## PIR MOTION AND TEMPERATURE SENSOR

QUICK INSTALLATION GUIDE  
v1.0



www.zipato.com

### INTRODUCTION

Zipato PIR Motion and Temperature 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 is battery powered, small and can be installed easily.

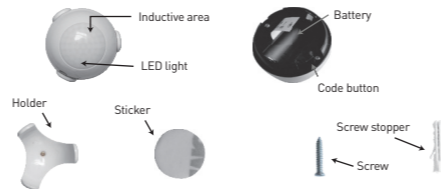
### SPECIFICATION

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

### TECHNICAL INFORMATION

- Use passive IR sensor to detect what is moving
- 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



### PACKAGE CONTENT

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

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

### INSTALLATION STEPS

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

### HOLDER INSTALLATION

#### • OPTION 1

Fix the holder with screws and screw stopper



### BATTERY INSTALLATION



### DETECTION RANGE AND WORKING CONDITIONS

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

#### • OPTION 2

Fix the holder with double-sides sticker

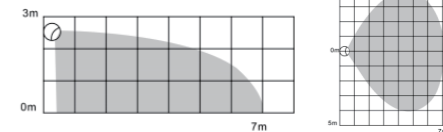


### FIX PIR ON THE HOLDER



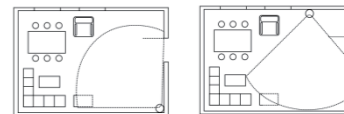
doors. Actual detection range of the sensor can be influenced by environment conditions. If there are false alarms, check for any moving objects within the sensor's detection area, such as trees blowing in the wind, cars passing by, etc. False motion alarms may be caused by moving masses of air and heat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

Work schematic diagram of PIR:



### WORKING CONDITIONS

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



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#### 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

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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 supports 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 group supports: BASIC\_SET

**GROUP 3** allows sending notifications to associated devices in his group. This group

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supports: NOTIFICATION\_REPORT\_V4

**GROUP 4** allows 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 following 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 movements 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

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#### 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 value BASIC\_SET level if PIR sensor is triggered and associated device will be turned on 30 seconds before it's turned off. This parameter value must be large as Parameter #. If user sets 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

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#### 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 below 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 Parameter #2. If user sets this parameter to default by Configure CC, the parameter #2 will be set to default value.

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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 settings: 0, 1  
Default setting: 0

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#### 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\_BINARY\_REPORT will be sent again to the nodes in lifeline. For compliant Z-Wave 300 series, there is also the Binary Sensor Command Class.

Notification Report Command:

Event present:  
Command class: COMMAND\_CLASS\_NOTIFICATION  
Command: NOTIFICATION\_REPORT  
Notification type: NOTIFICATION\_TYPE\_HOME\_SECURITY  
Event: NOTIFICATION\_EVENT\_HOME\_SECURITY\_MOTION\_DETECTION\_UNKNOWN\_LOCATION

Event clear:  
Command class: COMMAND\_CLASS\_NOTIFICATION

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Command: NOTIFICATION\_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 measurement, 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]

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Allowable interval among each wakeup interval is 60 seconds, such as 360, 420, 480... NOTE: The default 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 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\_LEVEL 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]

#### LIMITED PRODUCT WARRANTY

##### GENERAL TERMS

Nothing in this Limited Product Warranty affects your statutory rights as a consumer. The Limited Product Warranty set forth below is given by Tri plus grupa d.o.o. [Europe] [herein referred to as "ZIPATO"]. This Limited Product Warranty is only effective upon presentation of the proof of purchase. Upon further request by

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The term "ZIPATO Hardware Product" is limited to the hardware components and all its internal components including firmware.  
The term "ZIPATO Hardware Product" DOES NOT include any software applications or programs.

#### GEOGRAPHICAL SCOPE OF THE LIMITED PRODUCT WARRANTY

This Limited Product Warranty is applicable to Hardware Products sold by Zipato Resellers in all countries listed at the beginning of this document under the heading "Countries in which this ZIPATO Limited Product Warranty applies". The Limited Product Warranty will be honored in any country where ZIPATO or its authorized service providers offer warranty service subject to the terms and conditions set forth in this Limited Product Warranty. However, warranty service availability and response times may vary from country to country and may also be subject to registration requirements.

#### LIMITATION OF PRODUCT WARRANTY

ZIPATO warrants that the products described below under normal use are free from material defects in materials and workmanship during the Limited Product Warranty Period set forth below ("Limited Product Warranty Period"), if the product is used and serviced in accordance with the user manual and other documentation provided to the purchaser at the time of purchase (or as amended from time to time).

ZIPATO does not warrant that the products will operate uninterrupted or error-free

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or that all deficiencies, errors, defects or non-conformities will be corrected. 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. ZIPATO IS NOT RESPONSIBLE FOR DAMAGE THAT OCCURS AS A RESULT OF YOUR FAILURE TO FOLLOW THE INSTRUCTIONS FOR THE ZIPATO HARDWARE PRODUCT.

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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

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#### IMPORTANT

The content of "Product Type" listed above is subject to change; please refer to the [www.zipato.com](http://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

Tri plus grupa d.o.o.  
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CROATIA  
TEL +385 (0)1 4004 404 Fax +385 (0)1 4004 405

#### DECLARATION OF CONFORMITY



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

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Marketing model: PIR Motion and Temperature Sensor  
Regulatory model: ne-nas-pd01zt.eu  
Trade/Brand name: Zipato

is in conformity with the standard(s) recognized 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.

#### DISPOSING AND RECYCLING YOUR PRODUCT

When it reaches end of life, dispose of the product according to your local environmental laws, guidelines and regulations.



This symbol on the product or packaging means that according to local laws and regulations needs to be disposed of separately from household

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