AXIS T8341 PIR Motion Sensor

User Manual

AXIS T8341 PIR Motion Sensor

Table of Contents

Solution overview

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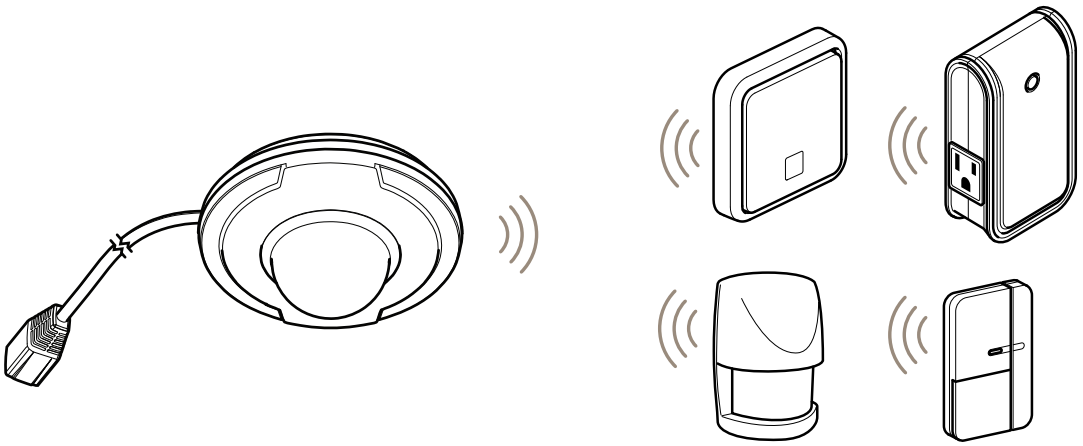

The device is Z-Wave® enabled and fully compatible with any Z-Wave enabled network. The device can be set up in a Z-Wave network to communicate directly with other end devices such as lighting controllers, or to report directly to a Z-Wave controller like the AXIS M5065 PTZ Network Camera.

Product overview

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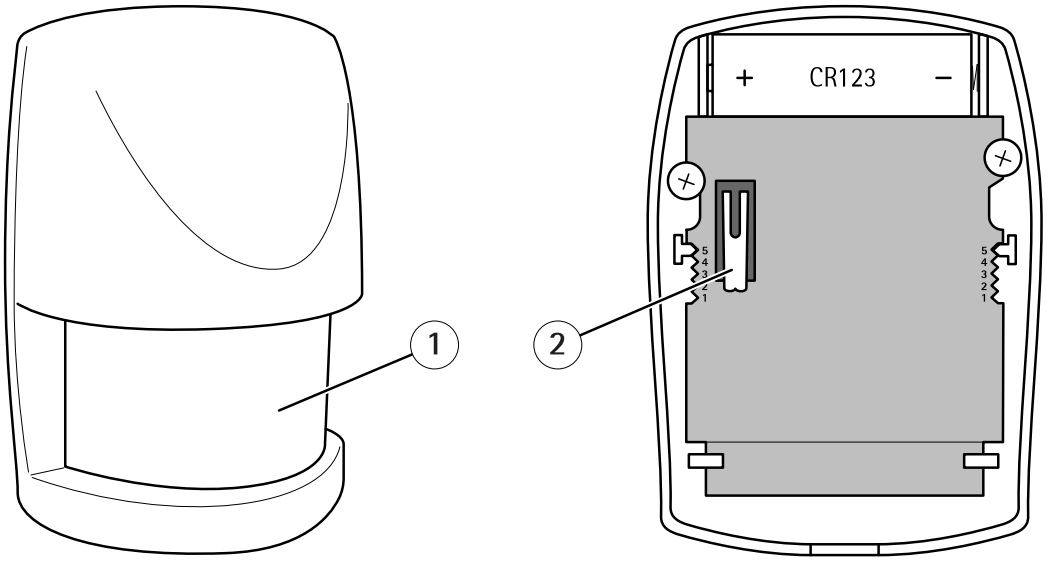

1. PIR sensor window (LED indicator inside)
2. Tamper switch

How to add a device to a Z-Wave Network

How to add a device to a Z-Wave Network

Auto inclusion

The motion sensor supports the auto inclusion feature where it will automatically enter Inclusion mode when first powered up. This will also apply when powered up after a factory reset.

1. Use a screwdriver to detach the battery cover.
2. Put the AXIS M5065 camera (or other Z-Wave controller) into inclusion mode.
3. Insert 1 CR123 3V batteries into the battery compartment with the correct polarity. The LED on the device should turn ON
4. Enter PIN number into the Z-Wave controller. The PIN number can be found on the device. See where in the installation guide.
5. The inclusion process should be completed when the LED stops blinking
6. Perform test before you refit the battery cover. See **How to test the Z-Wave Device**.

Manual inclusion

You can also choose to manually add the Z-Wave device to a control device. Please follow the steps described below.

Note

For best results, exclude the device before starting the inclusion process. For more details see the installation guide.

1. Use a screwdriver to detach the battery cover.
2. Put the AXIS M5065 camera (or other Z-Wave controller) into inclusion mode.
3. Insert 1 CR123 3V batteries into the battery compartment with the correct polarity. The LED on the device should turn ON
4. Press the tamper switch 3 times within 1.5 seconds to put the unit into learning (inclusion/exclusion) mode.
5. Enter PIN number into the Z-Wave controller. The PIN number can be found on the device. See where in the installation guide.
6. The inclusion process should be completed when the LED stops blinking.
7. Perform test before you refit the battery cover. See **How to test the Z-Wave Device**.

Manual exclusion

1. Use a screwdriver to detach the battery cover.
2. Press the tamper switch 3 times within 1.5 seconds to put the unit into learning (inclusion/exclusion) mode.
3. The exclusion process should be completed when the LED stops blinking
4. Refit the battery cover.

How to test the Z-Wave device

Warm-up

It will take the motion sensor approximately 2 minutes to warm up after the battery is inserted. During this period the LED behind the lens will turn on. When the red LED turns off, the warm-up procedure is completed and the device is ready to detect.

- This will not affect the Inclusion/Exclusion process.
- After you remove the batteries, wait 5 seconds before you refit them.

Quick test

1. If the tamper switch is not pressed after inclusion, the device will enter "Test mode" to allow you to test the device before it is mounted on the wall.
2. If movement is detected during "Test mode", the LED on the motion sensor will light up once indicating that the unit is working properly. Retrigger time is about 5 sec.
3. To exit "Test mode" and enter normal mode, simply press the tamper switch for more than 10 seconds.
4. When the PIR is triggered during normal mode the red LED will not light up, and retrigger time is based on a set up value.

Note

Important! Make sure you have created a Z-Wave controller-event linked to the battery-status signal. That way you will get a notification or a LED indication when a device runs on low battery power.

How to program the Z-Wave device

Note

Programming Z-Wave devices using a Z-Wave controller is recommended for experienced users only.

Z-Wave Group

The detector supports either one of two Z-Wave Association Groups:
Group 1: Association with 1 Controller node.
Group 2: Association with 4 nodes (i.e. end devices such as smart plugs and other lighting controllers). This allows the detector to transfer commands directly to end devices without the participation of the controller. This has the effect that when the detector triggers, all devices associated with detector will be operated.

Note

Association-group support can vary among Z-Wave Controllers. The AXIS M5065 supports Z-Wave Association Group 1.

Group 1 commands:

- When the device is powered up and already is a part of a Z-Wave network, the unit will send a Notification Report to the node in Group 1.
- When the detector senses a movement, the unit will send a Notification Report to the nodes of Group 1. Once the movement is stopped, a Notification Report will be sent again to Group 1.
- When the detector's status is changed, the device will check its battery status simultaneously. If the battery level drops to an unacceptable level, the device will emit a Battery report to the nodes of Group 1.
- When you perform a Factory Reset, the unit will send Device Reset Locally Notification to the node of Group1.

Group 2 commands:

- When the detector is triggered, the unit will send BASIC_SET command which contains a value to the nodes of Group 2.

Z-Wave Plus® info

Role type	Node type	Installer Icon	User Icon
Slave Sleeping report	Z-Wave Plus node	Sensor Notification Device Type (Home Security)	Sensor Notification Device Type (Home Security)

Version

Protocol library	3 (Slave_Enhance_232_Library)
Protocol version	4.3D (6.71.01)

Manufacturer

Manufacturer ID	Product Type	Product ID
0x0364	0x0002	0x0001

AGI (Association Group Information) table

How to program the Z-Wave device

Group	Profile	Command Class & Command (List) N bytes	Group Name (UTF-8)
1	General	Battery Report Notification Report Device Reset Locally Notification	Lifeline
2	Control	Basic Set	PIR Control

Notification

Event	Type	Event	Event Parameters Length	Event Parameters
The power is applied for the first time	0x08	0x01	0x00	
PIR Trigger ON	0x07	0x08	0x00	
PIR Trigger OFF	0x07	0x00	0x01	0x08
Tamper switch being press more than 10 seconds	0x07	0x00	0x01	0x03
Tamper switch being press more than 10 seconds and released	0x07	0x03	0x01	

Battery

Battery Report (value)	Description
20 ~ 100	Battery Level (%)
0xFF	Low Battery

Command classes

This product supports the following command classes:

- COMMAND_CLASS_ZWAVEPLUS_INFO_V2
- COMMAND_CLASS_ASSOCIATION_V2
- COMMAND_CLASS_ASSOCIATION_GRP_INFO
- COMMAND_CLASS_TRANSPORT_SERVICE_V2
- COMMAND_CLASS_VERSION_V2
- COMMAND_CLASS_MANUFACTURER_SPECIFIC_V2
- COMMAND_CLASS_DEVICE_RESET_LOCALLY
- COMMAND_CLASS_POWERLEVEL
- COMMAND_CLASS_SECURITY
- COMMAND_CLASS_SECURITY_2
- COMMAND_CLASS_SUPERVISION
- COMMAND_CLASS_FIRMWARE_UPDATE_MD_V4
- COMMAND_CLASS_BATTERY
- COMMAND_CLASS_WAKE_UP_V2

How to program the Z-Wave device

- COMMAND_CLASS_NOTIFICATION_V4
- COMMAND_CLASS_CONFIGURATION

Wake up command class

After the detector has been included into a Z-Wave network it will go to sleep, but it will send a wake-up notification command to the controller periodically at a preset period . The motion detector will stay awake for at least 10 seconds and then go back to sleep to conserve battery life.

The time interval between wake up notification commands can be set in the wake up command class based on the range values below:

Minimum wake up interval	600s (10 minutes)
Maximum wake up interval	86400s (1 day)
Default wake up interval	14400s (4 hours)
Wake up interval step seconds	600s (10 minutes)

Z-Wave 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. Please get familiar with the software of the Z-Wave controller before getting started.

To minimize power consumption of the battery, RF on the device is switched off as default. In order to start the set up process, please press the tamper switch once to turn on the RF power for 30 seconds. You can then see the LED start to blink every second. If set up is not finished within 30 seconds, please press the tamper switch one more time to continue the set up

- Basic set level
  When a Basic Set Command is sent and contains a value, the receiver will process it. For example, a lamp module would receive a Basic Set command which determines the dim level.
  Example:

  1-99: ON (Binary Switch Device)
  Dim Level (Multilevel Switch Device)

Function	Parameter number	Size	Range	Default
Basic Set level	1	1	1~99	99

- Sensitivity level (PIR sensor only)

  For optimal efficiency, it is recommended to test the detector's response to movements from the farthest end of the coverage area when you use it for the first time. If movements cannot be detected accurately, simply adjust the sensitivity level with the Configuration Parameter #3. This parameter can be configured with a value from 1 to 10, where 1 means low sensitivity and 10 means highest sensitivity.

Function	Parameter number	Size	Range	Default
Sensitivity level	3	1	1~10	6

- Re-trigger interval setting (PIR sensor only)

  The configuration parameter used to adjust the re-trigger interval after the detector has been triggered as configuration parameter #4. No response will be made during this interval if a movement is detected. The time interval can be set between 5 seconds to 3,600 seconds.

Function	Parameter number	Size	Range	Default
Retrigger interval	4	2	5~3600(sec)	180

- Lux level

  You can set a percentage for the lux level which determines when the light sensor will be activated. If the ambient illumination drops below the set percentage, and a person moves across or within the protected area, the detector will emit a Z-Wave ON command (i.e. Basic Set command (Value = Basic Set Level)) to the controller and activate connected modules and lighting. The percentage can be set between 1% to 100%.

Function	Parameter number	Size	Range	Default
Lux level	5	1	1~100%	20

On-off duration

The on-off duration setting can be useful if the detector is connected to a module or lighting. The duration determines how long the module/lighting should stay ON. For instance, a Lamp Module turns off 100 secs after it has been turned on. The duration can be configured to last between 5 to 3600 seconds.

Z-Wave configuration

Function	Parameter number	Size	Range	Default
On-Off Duration	6	2	5~3600(sec)	15

Troubleshooting

Troubleshooting

The table below explains the status in the Z-Wave controller as well as the LED indication on the device.

Action/Status	Description	LED indication
No node ID	The Z-Wave controller could not find the device and did not provide a node ID.	2-second on, 2-second off for 2 minutes.
Factory Reset (This procedure should only be used when the controller is not responding.)	1. Press the tamper switch 3 times within 1.5 seconds to put the device into exclusion mode.	
	2. Within 1 second of step 1, press the tamper switch again and hold until LED is off (about 5 seconds).	
	3. Node ID is excluded. The device reverts to factory default state and will be in auto-inclusion mode for 4 minutes.	2-second on, 2-second off for 2 minutes.
Failed or successful results in including/excluding the ID can be viewed on a Z-Wave controller.		

Table below lists typical problems encountered:

Symptom	Possible cause	Recommendation
Cannot carry out inclusion and association.	1. The device is still connected, or has been accidentally included, to a previous network. 2. The entered PIN code is incorrect 3. The battery has run out of power. 4. Battery polarity is reversed. 5. Detector is malfunctioning.	1. Exclude the device before including it again. 2. Make sure you have entered the correct PIN code 3. Replace the battery. 4. Refit the battery with the correct polarity. 5. Ensure the detector is working properly.
Cannot control the connected modules.	1. The device is still connected, or has been accidentally included, to a previous network. 2. The battery has run out of power. 3. Detector is malfunctioning.	1. Exclude the device before including it again. 2. Replace the battery. 3. Ensure the detector is working properly.
The detector is not functioning properly.	1. The device is still connected, or has been accidentally included, to a previous network. 2. The battery has run out of power. 3. The detector is mounted above a radiator or heater. 4. Detector is malfunctioning.	1. Exclude the device before including it again. 2. Replace the battery. 3. Remove the source of interference or reposition its mounting location. 4. Ensure the detector is working properly.
The event list is not working properly.	1. The device is still connected, or has been accidentally included, to a previous network. 2. The controller's firmware is outdated. 3. The battery has run out of power.	1. Exclude the device before including it again. 2. Make sure the controller has the latest firmware 3. Replace the battery.

Note

For best results, exclude the device before starting the inclusion process. For more details see the installation guide.

Specifications

Specifications

To find the latest version of the product's datasheet, go to the product page on *axis.com* and locate **Support & Documentation**.

Specifications

Battery	CR123 3.0V Lithium Battery
Battery life	1 year*
Range	Up to 100 meters line of sight
Warm up time	About 2 minutes
PIR detection coverage	Up to 10 m x 110° (at 1.8 m mounting height & 25°C)
Operating frequency	908.42 MHz (US),922.5 MHz (JP)
FCC ID	FU5SP817

Specifications are subject to change without notice
*measured at 10 triggers per day

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