Ecolink Intelligent Technology EU Z-WAVE PIR MOTION SENSOR H214101 Manual

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Ecolink Intelligent Technology

EU Z-WAVE PIR MOTION SENSOR

SKU: H214101

Quickstart

This is a

Alarm Sensor
for
CEPT (Europe).

Please make sure the internal battery is fully charged.

To add this device to your network execute the following action:
The sensor must be added to a Z-Wave network prior to use. To include the sensor in a network, both the sensor and the network controller must be in inclusion mode at the same time. Activate inclusion mode for the sensor by removing the battery isolation pull tab, or by inserting the battery (see next section for battery installation tips). When the inclusion process is complete the red LED will turn on for approximately 10 seconds and then it will go out. If the LED continues to flash repeat the inclusion process.Refer to the instructions provided by the manufacturer of your specific controller for details on initiating the controllers inclusion mode. STEP ONEStart by placing the controller into inclusion mode.STEP TWOActivate inclusion mode for the sensor by removing the battery isolation pull tab, or by inserting the battery (see next section for battery installation tips). When the inclusion process is complete the red LED will turn on for approximately 10 seconds and then it will go out.If the LED continues to flash repeat the inclusion process. STEP THREETest the motion sensor before mounting it.Place the sensor in an unoccupied room.Leave the room for at least 4 minutes.Return to the room and pass in front of the sensor lens.The LED will flash once to indicate that motion was detected.

Please refer to the
Manufacturers Manual for more information.

Important safety information

Please read this manual carefully. Failure to follow the recommendations in this manual may be dangerous or may violate the law.
The manufacturer, importer, distributor and seller shall not be liable for any loss or damage resulting from failure to comply with the instructions in this manual or any other material.
Use this equipment only for its intended purpose. Follow the disposal instructions.

Do not dispose of electronic equipment or batteries in a fire or near open heat sources.

What is Z-Wave?

Z-Wave is the international wireless protocol for communication in the Smart Home. This device is suited for use in the region mentioned in the Quickstart section.

Z-Wave ensures a reliable communication by reconfirming every message (**two-way communication**) and every mains powered node can act as a repeater for other nodes (**meshed network**) in case the receiver is not in direct wireless range of the transmitter.

This device and every other certified Z-Wave device can be **used together with any other certified Z-Wave device regardless of brand and origin** as long as both are suited for the same frequency range.

If a device supports **secure communication** it will communicate with other devices secure as long as this device provides the same or a higher level of security. Otherwise it will automatically turn into a lower level of security to maintain backward compatibility.

For more information about Z-Wave technology, devices, white papers etc. please refer to www.z-wave.info.

Product Description

For indoor use only Operating frequency: 908.42 MHz Operating range: Up to 100 feet (30.5 meters) line-of-sight Operating temperature: 0C to 49C, 32F to 120F (ambient temperature) Detection radius: 39 feet (see detection region diagram) Detection angle: 45 degrees in either direction from the sensors center Battery type: 3V Lithium CR123A Battery life: approximately 3 years Passive Infrared (PIR) based technology

Prepare for Installation / Reset

Please read the user manual before installing the product.

In order to include (add) a Z-Wave device to a network it **must be in factory default state.** Please make sure to reset the device into factory default. You can do this by performing an Exclusion operation as described below in the manual. Every Z-Wave controller is able to perform this operation however it is recommended to use the primary controller of the previous network to make sure the very device is excluded properly from this network.

Reset to factory default

This device also allows to be reset without any involvement of a Z-Wave controller. This procedure should only be used when the primary controller is inoperable.

To restore this sensor to factory default settings, follow the instructions in this manual to exclude this sensor from the Z-Wave network.Upon completion of removal from the network the sensor will restore itself to factory default settings automatically.Use this procedure only in the event that the network primary controller is missing or otherwise inoperable.

Inclusion/Exclusion

On factory default the device does not belong to any Z-Wave network. The device needs to be **added to an existing wireless network** to communicate with the devices of this network. This process is called **Inclusion**.

Devices can also be removed from a network. This process is called **Exclusion**. Both processes are initiated by the primary controller of the Z-Wave network. This controller is turned into exclusion respective inclusion mode. Inclusion and Exclusion is then performed doing a special manual action right on the device.

Inclusion

The sensor must be added to a Z-Wave network prior to use. To include the sensor in a network, both the sensor and the network controller must be in inclusion mode at the same time. Activate inclusion mode for the sensor by removing the battery isolation pull tab, or by inserting the battery (see next section for battery installation tips). When the inclusion process is complete the red LED will turn on for approximately 10 seconds and then it will go out. If the LED continues to flash repeat the inclusion process.Refer to the instructions provided by the manufacturer of your specific controller for details on initiating the controllers inclusion mode. STEP ONEStart by placing the controller into inclusion mode.STEP TWOActivate inclusion mode for the sensor by removing the battery isolation pull tab, or by inserting the battery (see next section for battery installation tips). When the inclusion process is complete the red LED will turn on for approximately 10 seconds and then it will go out.If the LED continues to flash repeat the inclusion process. STEP THREETest the motion sensor before mounting it.Place the sensor in an unoccupied room.Leave the room for at least 4 minutes.Return to the room and pass in front of the sensor lens.The LED will flash once to indicate that motion was detected.

Exclusion

Exclusion mode on the sensor is initiated following the same exact procedure as inclusion.

Communication to a Sleeping device (Wakeup)

This device is battery operated and turned into deep sleep state most of the time to save battery life time. Communication with the device is limited. In order to communicate with the device, a static controller **C** is needed in the network. This controller will maintain a mailbox for the battery operated devices and store commands that can not be received during deep sleep state. Without such a controller, communication may become impossible and/or the battery life time is significantly decreased.

This device will wakeup regularly and announce the wakeup state by sending out a so called Wakeup Notification. The controller can then empty the mailbox. Therefore, the device needs to be configured with the desired wakeup interval and the node ID of the controller. If the device was included by a static controller this controller will usually perform all necessary configurations. The wakeup interval is a tradeoff between maximal battery life time and the desired responses of the device. To wakeup the device please perform the following action:

To save power, this sensor sleeps most of the time and is therefore not awake to receive messages from a gateway for testing. Removing the top case from the sensor will put in device into a tampered mode in which the sensor will stay awake and able to receive messages. Most of the time an end user would not do this, but if the sensor needs to be configured after inclusion, an end user can follow the instructions below for sending Wake-Up notifications.

Quick trouble shooting

Here are a few hints for network installation if things dont work as expected.

1. Make sure a device is in factory reset state before including. In doubt exclude before include.
2. If inclusion still fails, check if both devices use the same frequency.
3. Remove all dead devices from associations. Otherwise you will see severe delays.
4. Never use sleeping battery devices without a central controller.
5. Dont poll FLIRS devices.
6. Make sure to have enough mains powered device to benefit from the meshing

Association – one device controls an other device

Z-Wave devices control other Z-Wave devices. The relationship between one device controlling another device is called association. In order to control a different device, the controlling device needs to maintain a list of devices that will receive controlling commands. These lists are called association groups and they are always related to certain events (e.g. button pressed, sensor triggers, …). In case the event happens all devices stored in the respective association group will receive the same wireless command wireless command, typically a ‘Basic Set’ Command.

Association Groups:

Group NumberMaximum NodesDescription

1	5	Group one is a lifeline group who will receive unsolicited messages relating to motion detection notificati ons, case tampering notifications, low-battery notifications, and sensor binary reports.
2	5	Group 2 is intended for devices that are to be controlled i.e. turned on or off (on only by default) with a B asic Set.On inclusion the controller should put its node ID in group 1 but not group 2.

Configuration Parameters

Z-Wave products are supposed to work out of the box after inclusion, however certain configuration can adapt the function better to user needs or unlock further enhanced features.

IMPORTANT: Controllers may only allow configuring signed values. In order to set values in the range 128 … 255 the value sent in the application shall be the desired value minus 256. For example: To set a parameter to 200â€ˆit may be needed to set a value of 200 minus 256 = minus 56. In case of a two byte value the same logic applies: Values greater than 32768 may needed to be given as negative values too.

Parameter 1: No More Motion Detected Basic Set

(Default) Sensor does NOT send Basic Sets to Node IDs in Association Group 2 when the sensor is restored (i.e. Motion Not Detected).Sensor sends Basic Sets of 0x00 to nodes in Association Group2 when sensor is restored.
Size: 1 Byte, Default Value: 0

SettingDescription

0 – -1	Off (00,) On (-01)

Parameter 2: Motion Detected Sensory Binary Report

(Default) Sensor sends Sensor Binary Reports when sensor is faulted and restored for backwards compatibility in addition to Notification Reports.Sensor will send only Notification Reports and NOT Sensor Binary Reports when the sensor is faulted and restored.
Size: 1 Byte, Default Value: 0

SettingDescription

0 – -1	Off (00,) On (-01)

Technical Data

Hardware Platform	ZM5202
Device Type	Notification Sensor
Network Operation	Reporting Sleeping Slave
Firmware Version	HW: 2 FW: 10.01
Z-Wave Version	6.51.06
Certification ID	ZC10-18056110
Z-Wave Product Id	0x014A.0x0004.0x0001
Color	White
Supported Notification Types	Home Security
Sensors	Motion/No Motion (Binary)Open/Closed (Binary)
Frequency	XXfrequency
Maximum transmission power	XXantenna

Supported Command Classes

- Association Grp Info
- Association V2
- Basic
- Battery
- Configuration V2
- Manufacturer Specific V2
- Notification V5
- Powerlevel
- Sensor Binary V2
- Version V2
- Wake Up V2
- Zwaveplus Info V2

Controlled Command Classes

- Basic

Explanation of Z-Wave specific terms

- **Controller** — is a Z-Wave device with capabilities to manage the network. Controllers are typically Gateways,Remote Controls or battery operated wall controllers.
- **Slave** — is a Z-Wave device without capabilities to manage the network. Slaves can be sensors, actuators and even remote controls.
- **Primary Controller** — is the central organizer of the network. It must be a controller. There can be only one primary controller in a Z-Wave network.
- **Inclusion** — is the process of adding new Z-Wave devices into a network.
- **Exclusion** — is the process of removing Z-Wave devices from the network.
- **Association** — is a control relationship between a controlling device and a controlled device.
- **Wakeup Notification** — is a special wireless message issued by a Z-Wave device to announces that is able to communicate.
- **Node Information Frame** — is a special wireless message issued by a Z-Wave device to announce its capabilities and functions.