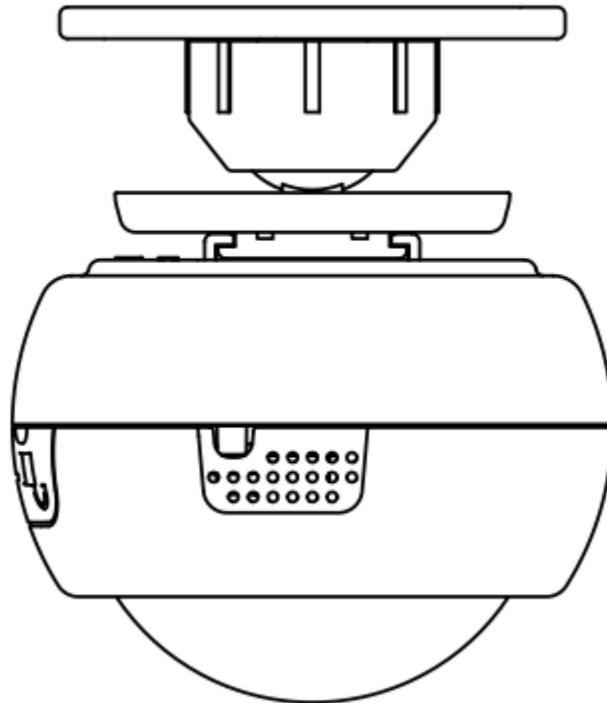# Multisensor Gen5 user guide.

Modified on: Thu, 9 Mar, 2017 at 5:41 PM

Aeotec by Aeon Labs Multisensor Gen5.

Aeotec Multisensor Gen5 has been crafted to power connected lighting using Z-Wave Plus. It is powered by Aeotec's Gen5 technology.
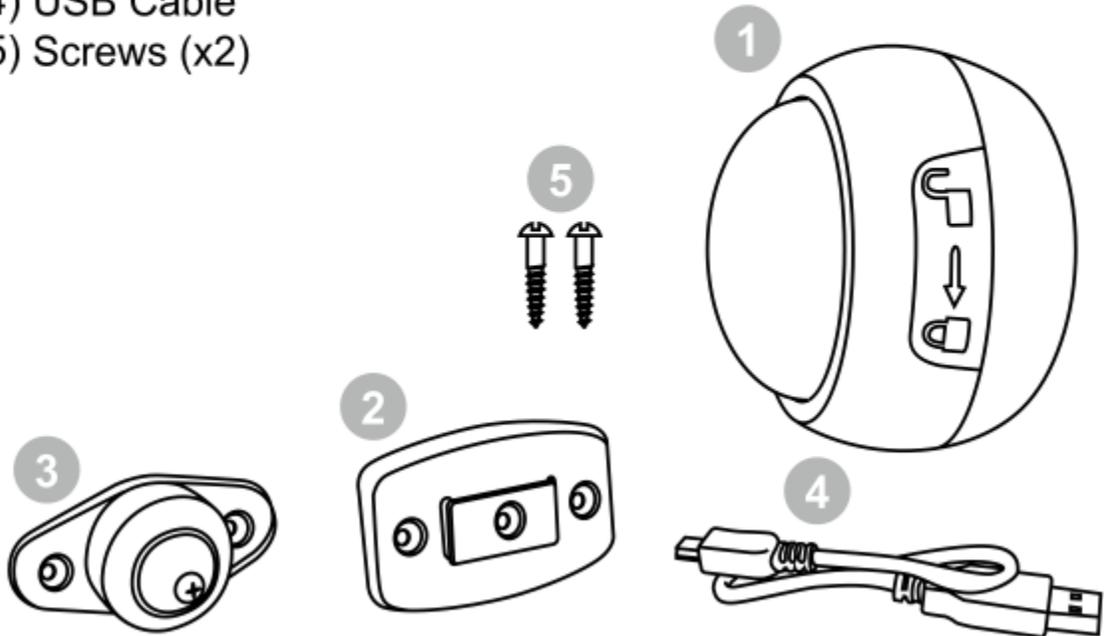
To see whether Multisensor 6 is known to be compatible with your Z-Wave system or not, please reference our Z-Wave gateway comparison listing. The technical specifications of Multisensor Gen5 can be viewed at that link.
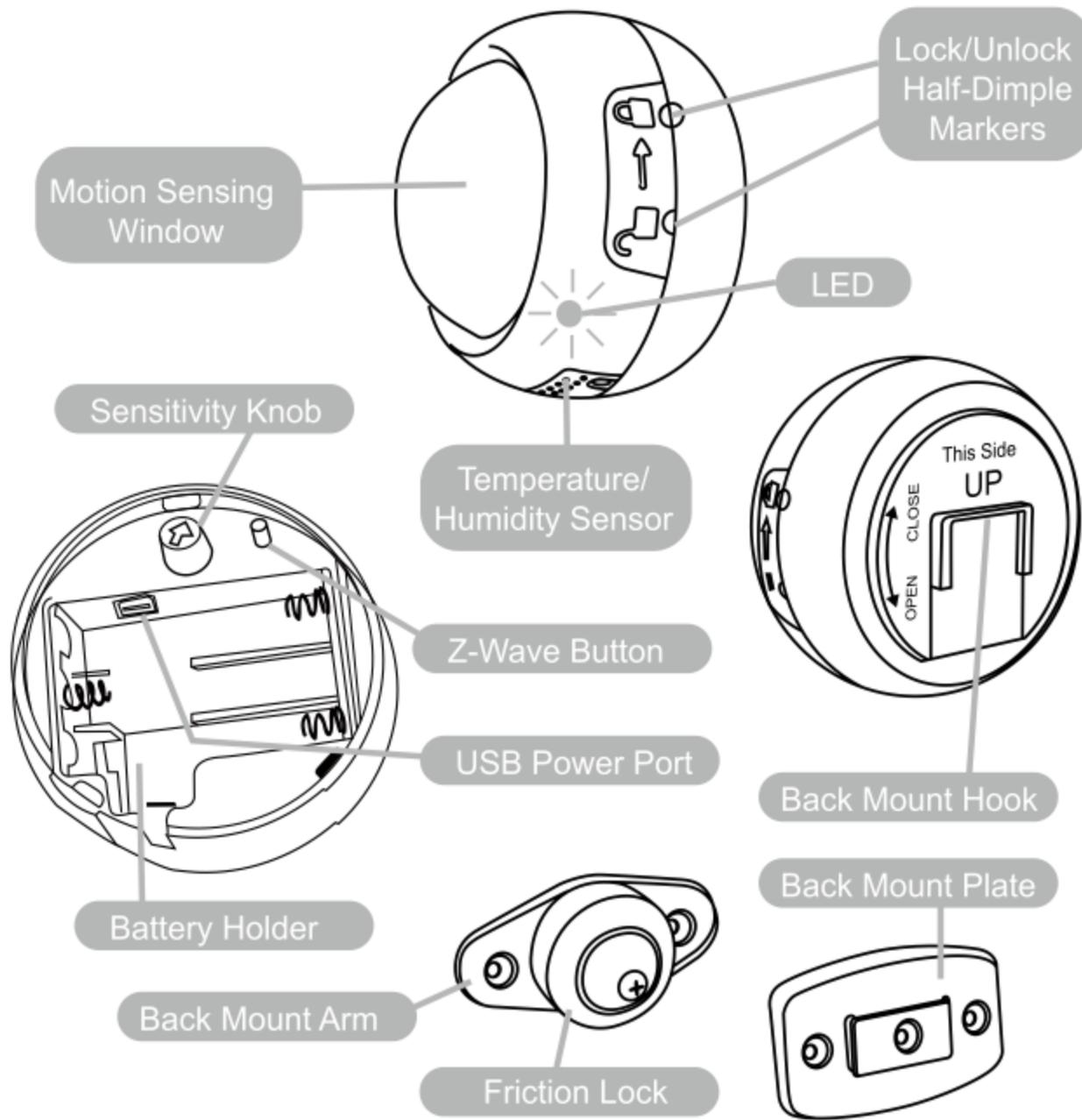
Getting to know your MultiSensor.

Your MultiSensor comes packaged with a number of accessories that will help with its installation and operation.

Package Contents:

1) MultiSensor **Gen5**
2) Back-Mount Plate
3) Back-Mount Arm
4) USB Cable
5) Screws (x2)

Motion Sensing Window

Lock/Unlock Half-Dimple Markers

LED

Sensitivity Knob

Temperature/ Humidity Sensor

This Side UP

CLOSE

OPEN

Z-Wave Button

USB Power Port

Back Mount Hook

Battery Holder
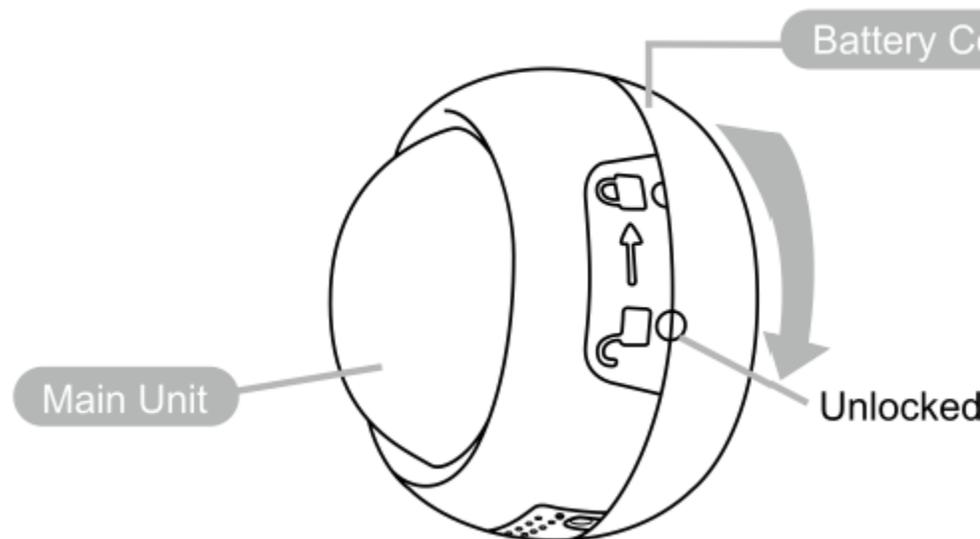
Back Mount Plate

Back Mount Arm

Friction Lock

Quick start.

Your MultiSensor can be powered by battery or by USB with an appropriate adapter. For the purposes of installation and setup, and even if you intend to power your sensor with batteries, we recommend utilizing the provided USB cable for setup. For this you'll need an adapter to plug your USB cable into, this can include any USB port on a computer and most mobile phone chargers. These first steps can be performed in any location with your home, and not necessarily in your MultiSensor final installation location.
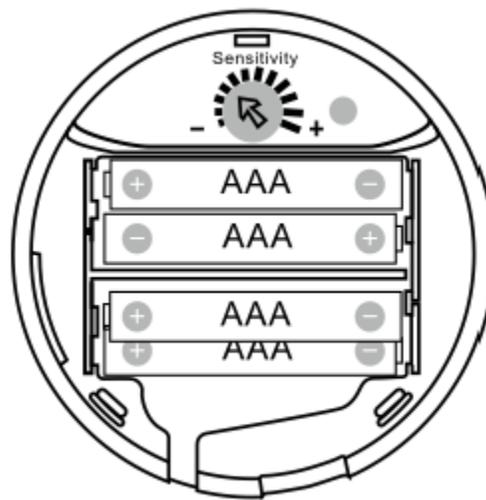
For a USB powered installation.

1. Remove the rear part of your sensor by twisting the battery cover in a counter-clockwise motion and separating the two parts of your sensor.

2. Insert the appropriate end of the provided USB cable into your sensor's USB port (located on the side of the battery port). Your MultiSensor is now powered on.

For a battery powered installation.

1. Remove the rear part of your sensor as shown in the previous step 1.

2. Insert 4 AAA batteries oriented according to the picture below. Your MultiSensor is now powered on.

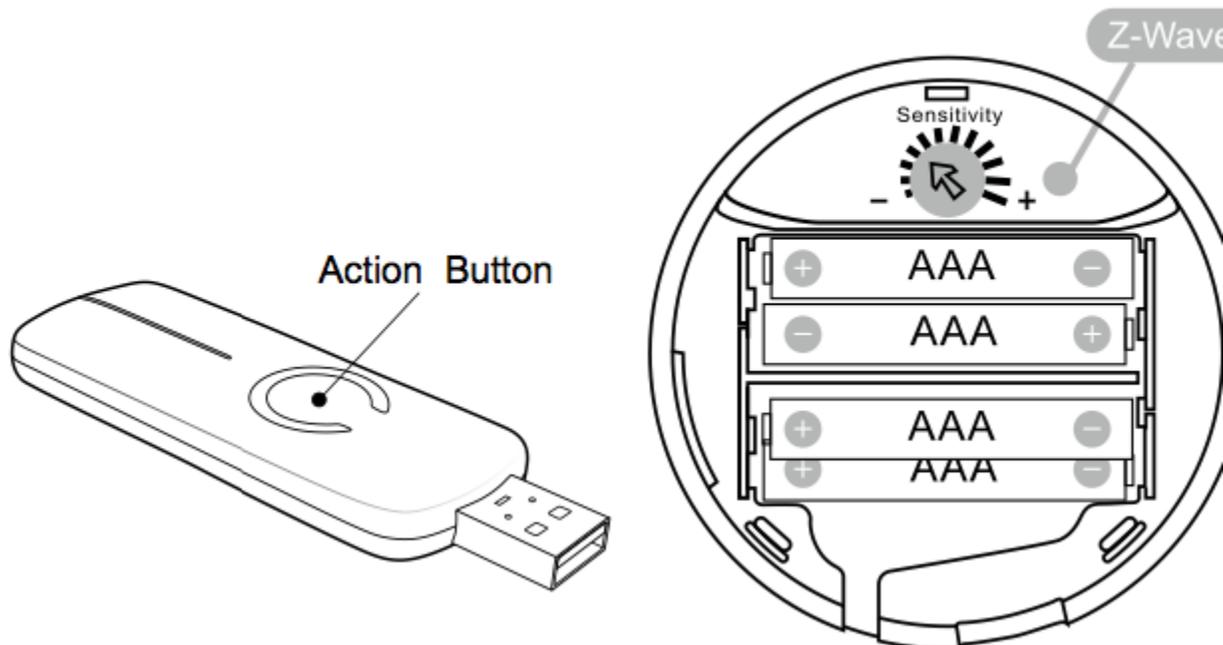# Add your MultiSensor to your Z-Wave network.

It's now time to sync your MultiSensor with a Z-Wave network. The following instructions explain how to do this using a Z-Stick or a Minimote from Aeotec. If you're using an alternative controller for your Z-Wave network, please refer to its user manual for network inclusion instructions.

If you're using an existing gateway:

You will need to reference your current gateways method of placing it into pair or inclusion mode to complete step 1.
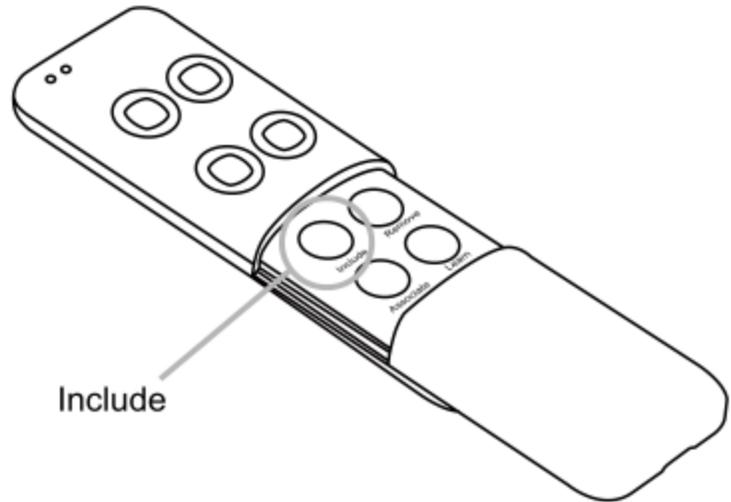
1. Put your Z-Wave gateway into inclusion or pair mode.

2. Press the Z-Wave Button on your MultiSensor.

3. You can test if your MultiSensor has been successfully synced with your Z-Wave network by pressing its Z-Wave Button. If you press the button and your sensor's LED illuminates for a few seconds, then syncing has been successful. If the LED blinks when the button is pressed, the syncing has been unsuccessful and you should repeat the above steps.

If you're using a Z-Stick:

1. If your Z-Stick is plugged into a gateway or a computer, unplug it.

2. Take your Z-Stick to your MultiSensor.

3. Press the Action Button on your Z-Stick.

4. Press the Z-Wave Button on your MultiSensor.

5. You can test if your MultiSensor has been successfully synced with your Z-Wave network by pressing its Z-Wave Button. If you press the button and your sensor's LED illuminates for a few seconds, then syncing has been successful. If the LED blinks when the button is pressed, the syncing has been unsuccessful and you should repeat the above steps.

6. Press the Action Button on the Z-Stick to return it to standard operating mode, then return it to your gateway or computer.

If you're using a Minimote:

Include

1. Take your Minimote to your MultiSensor.

2. Press the Include button on your Minimote.

3. Press the Z-Wave Button on your MultiSensor.

4. You can test if your MultiSensor has been successfully synced with your Z-Wave network by pressing its Z-Wave Button. If you press the button and your sensor's LED illuminates for a few seconds, then syncing has been successful. If the LED blinks when the button is pressed, the syncing has been unsuccessful and you should repeat the above steps.

5. Press any button on your Minimote to return it to standard operating mode.

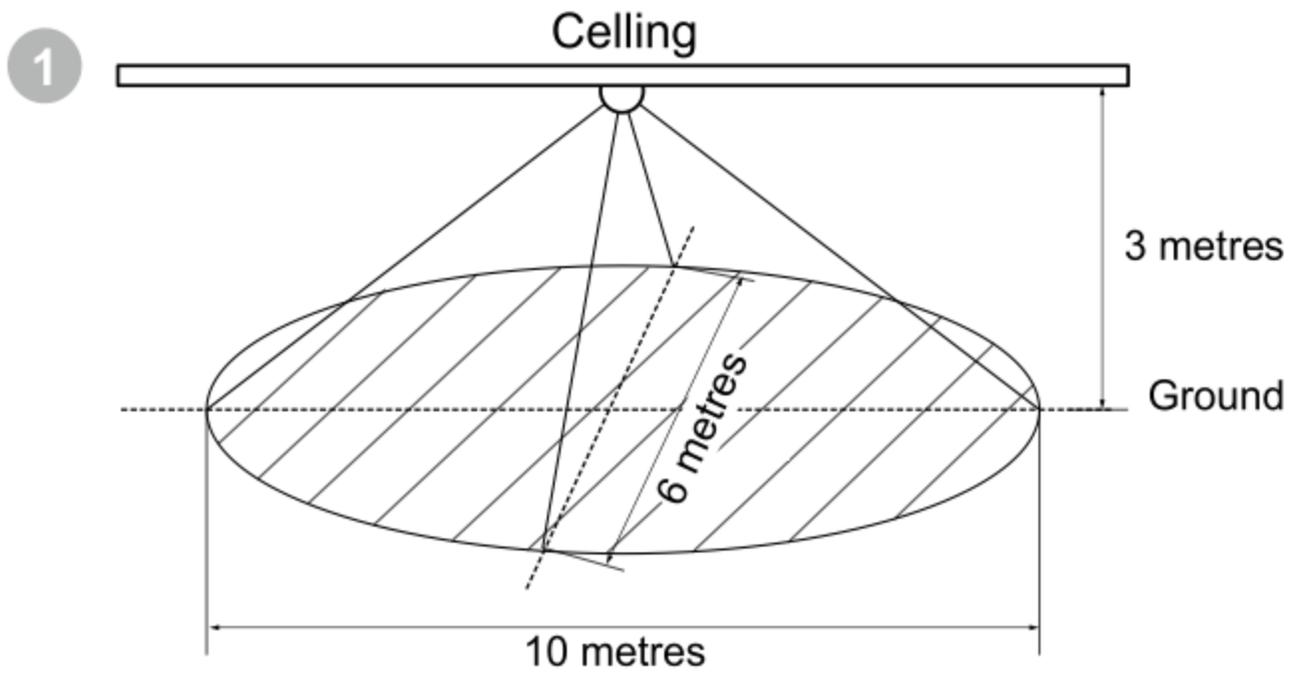## Selecting a Location for your MultiSensor.

MultiSensor can bring its intelligent readings to many locations of your home. That includes outside of your home. MultiSensor is weatherized and can operate outdoors in elements such as rain and snow. Please note that when installed outdoors, your MultiSensor should only be relied on for temperature, light and humidity readings and

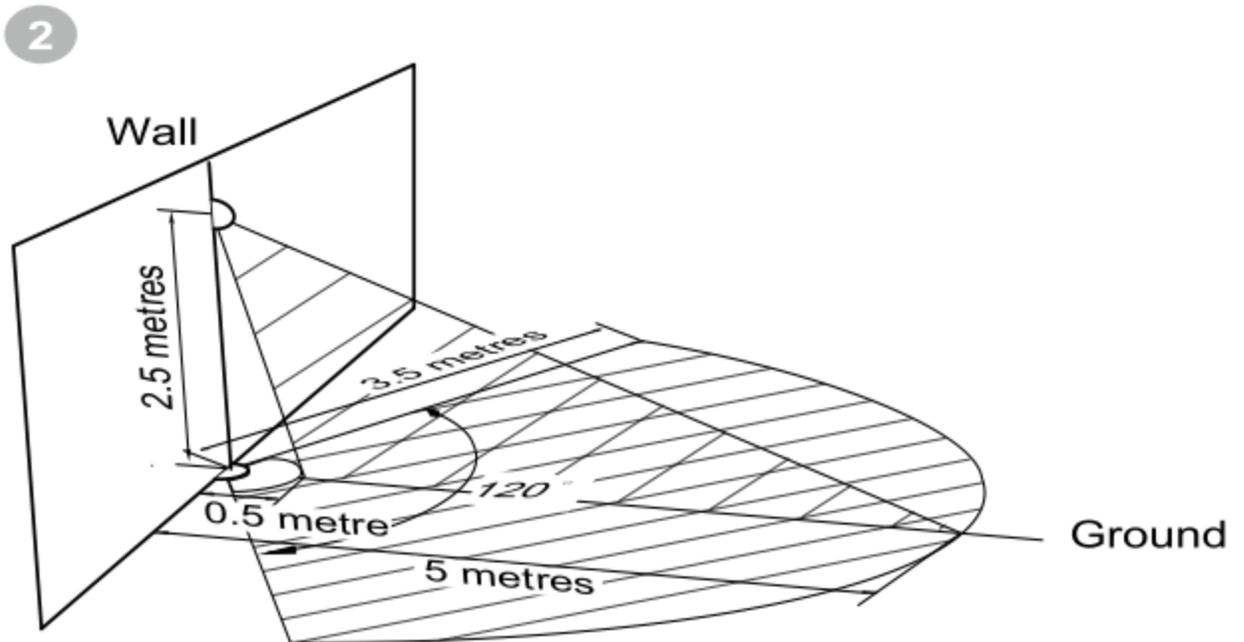that the motion sensing capabilities should be disabled on your gateway in order to avoid false readings.

While light can impact on the quality of motion readings, it's also important to understand things that may impact on other readings within your home. Specifically, your MultiSensor should not be installed in areas of artificial temperature change. Thus, when selecting a location, avoid placing it beside or near air conditioners, humidifiers, and heaters, and avoid positioning it directly opposite a window or direct sunlight.

Selecting a location for your MultiSensor to be installed depends on the use case. Whatever the case or the installation location, please ensure that it fits with your sensor's effective motion sensing range as described in these diagrams.
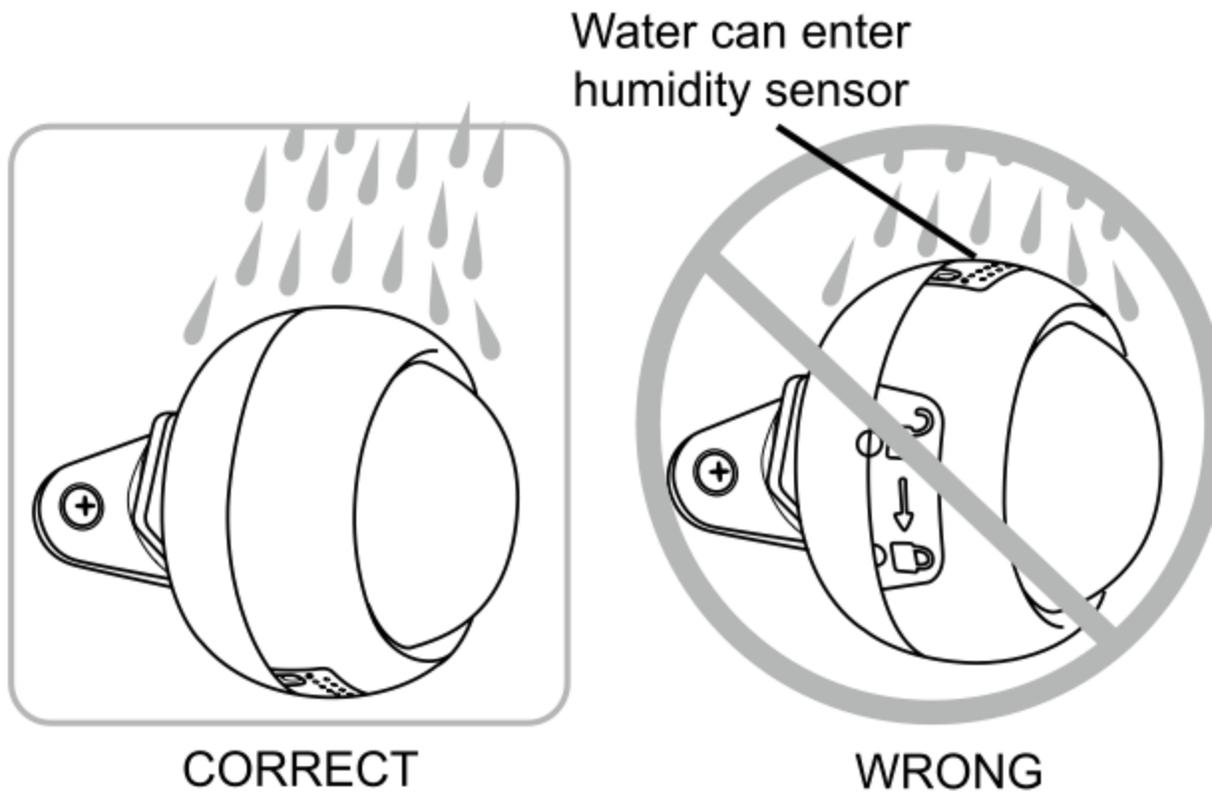
For ceiling mounting using the Back-Mount Plate.

Celling

3 metres

Ground

6 metres

10 metres

For wall mounting using the Back-Mount Arm:

Further, for optimal performance your MultiSensor should NOT be mounted directly on or near metal framing or other large metallic objects. Large metal objects may weaken the Z-Wave wireless signal (as metal properties will reflect any wireless signals such as Z-Wave).

If selecting an outdoor location, it's important to position your MultiSensor in a sheltered location. It is best if your MultiSensor is not directly exposed to rain and integral that the humidity venting on your MultiSensor is. As such, during installation you should orient your MultiSensor according to the following diagram so that the sensor perforations on the side of your sensor are facing downwards.

Water can enter
humidity sensor

CORRECT   WRONG
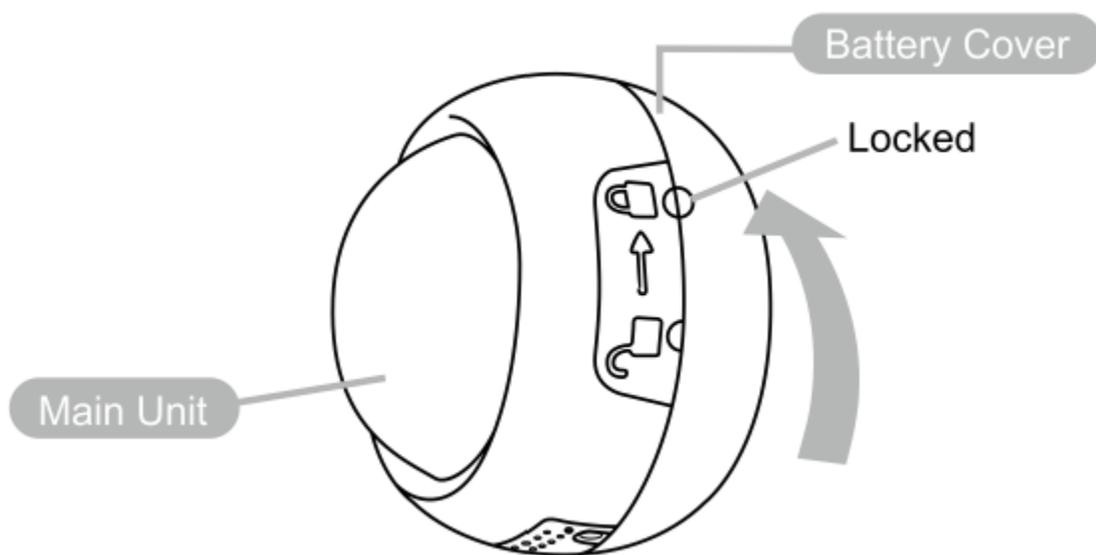
Install your MultiSensor.

With your MultiSensor now part of your Z-Wave network, it's time to finish its physical installation.

There are 2 ways that your MultiSensor can be mounted on on a wall or ceiling. Using the Back-Mount Plate, you can mount it flat against a wall or ceiling. Using the Back-Mount Arm you can mount it on a surface or in a corner and angle it as desired.

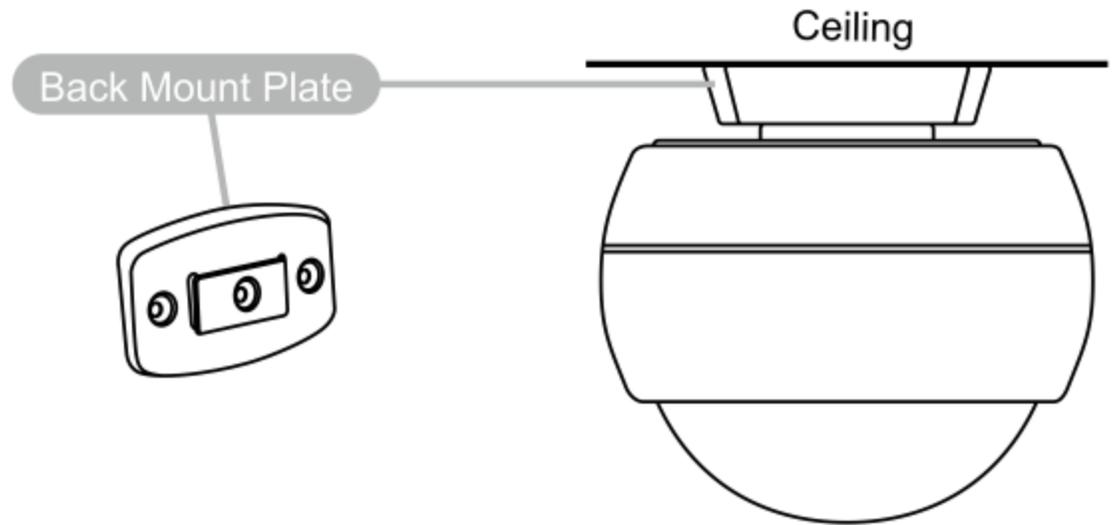**To physically install your MultiSensor.**

1. Reattach the two parts of your MultiSensor to each other. To do this, align the lock/unlock half-dimple markers that are under the unlock symbol and then twist in a clockwise motion.

2. If used the USB cable to power your MultiSensor, ensure that power can be provided to your desired installation location. Please note that when installed in areas that where the temperature can drop below -10°C, it is advised that mains power is used and battery power is not.

Battery Cover

Locked

Main Unit

3. Attach your desired mounting accessory. This can be the Back-Mount Plate or the Back-Mount Arm.

4. If using the Back-Mount Plate, utilize the provided 3mm screws to affix it to a surface.

Ceiling

Back Mount Plate

5. If using the Back-Mount Arm, utilize one 3x10mm screw to attach the Back-Mount Plate to the Back-Mount Arm. Then affix the Back-Mount Arm to a surface utilizing the provided 3x20mm screws.

6. The Back-Mount Arm may be locked at various angles by turning the Friction Lock clockwise and counter-clockwise to respectively tighten or loosen the angle of the arm.

Back Mount Arm

Tighten/Loosen
Friction Lock

Back Mount Plate

Advanced functions.

Changing batteries.

Your MultiSensor has built in battery level detection. It will automatically report its battery level to the associated control point throughout its life until the battery is fully drained and needs replacing. The battery status will often be displayed in the user interface of the control point.

When used properly in an optimized Z-Wave network, your MultiSensor can be powered by batteries for 12 months before battery replacement is necessary depending on your configuration settings.

Recommendation: For networks which do not offer a method to display the battery level of your MultiSensor, it is recommended that the sensor be tested occasionally to ensure that the batteries still hold enough charge to operate. Batteries naturally lose their charge over time.

Removing your MultiSensor from a Z-Wave network.

Your MultiSensor can be removed from your Z-Wave network at any time. You'll need to use your Z-Wave network's main controller to do this and the following instructions tell you how to do this using Aeotec by Aeon Labs' Z-Stick and Minimote controllers. If you are using other products as your main Z-Wave controller, please refer to the part of their respective manuals that tells you how remove devices from your network.
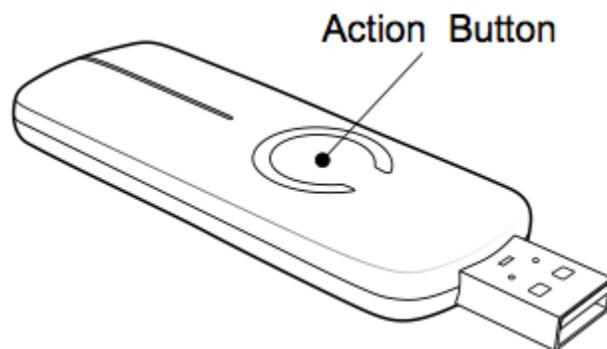
Removing your MultiSensor from Z-Wave Network.

If you're using an existing gateway:

You will need to reference your current gateways method of placing it into unpair or exclusion mode to complete step 1.

    1. Put your Z-Wave gateway into exclusion or unpair mode.

    2. Press the Z-Wave Button on your MultiSensor.

    3. If your MultiSensor has been successfully removed from your network, its LED will blink when you press the Z-wave Button. If the removal was unsuccessful, the LED will stay solid for a few seconds when you press the Z-wave Button.

If you're using a Z-Stick:

Action Button

1. If your Z-Stick is plugged into a gateway or a computer, unplug it.

2. Take your Z-Stick to your MultiSensor.

3. Press and hold the Action Button on your Z-Stick for 3 seconds and then release.

4. Press the Z-Wave Button on your MultiSensor.

5. If your MultiSensor has been successfully removed from your network, its LED will blink when you press the Z-wave Button. If the removal was unsuccessful, the LED will stay solid for a few seconds when you press the Z-wave Button.
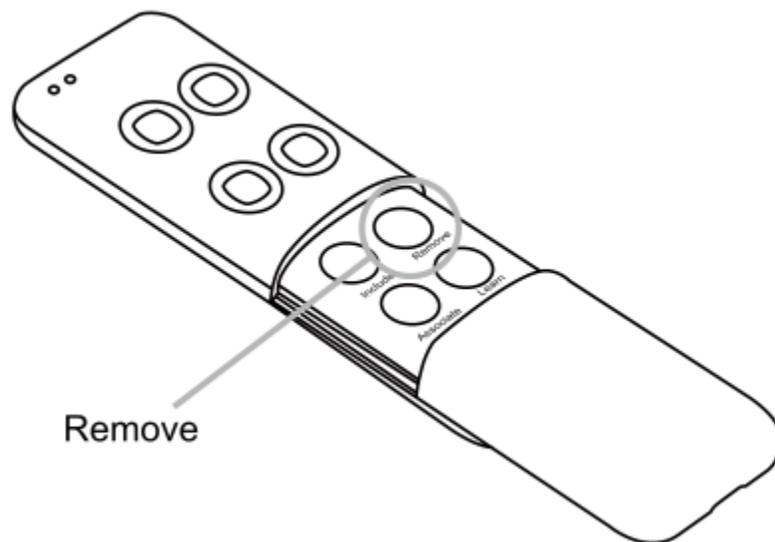
6. Press any button on your Minimote to take it out of removal mode.

If you're using a Minimote:

Remove

1.Take your Minimote to your MultiSensor.

2. Press the Remove Button on your Minimote.

3. Press the Z-wave Button on your MultiSensor.

4. If your MultiSensor has been successfully removed from your network, its LED will blink when you press the Z-wave Button. If the removal was unsuccessful, the LED will stay solid for a few seconds when you press the Z-wave Button.

5. Press any button on your Minimote to take it out of removal mode.

Monitoring motion.

The MultiSensor can send Basic Set Command to association group 1, which is setup via the Association Command Class, when the Motion Sensor detects movement to control the associated devices to "OPEN" state. After 4 minutes by default, if the Motion Sensor is not triggered again, the MultiSensor will send Basic Set Command to these devices to set them to their "CLOSE" state. However, if the Motion Sensor is triggered again within 4 minutes, the MultiSensor will reset the timing and start timing again.

The 4 minutes delay time can be changed through the usage of Z-Wave command built into Z-Wave certified control points. (The specific Z-Wave command supporting this function is Configuration Command Class) Please consult the operation manual for these control points in your gateway or software for specific instructions on setting the MultiSensor.

Setting Motion Sensor delay time.

Parameter 3 [2 byte decimal] can be configured through your gateway in case the default settings of your MultiSensor are not what you desire.

For example, this parameter setting is initially set to 240 which is the delay time in 4 minutes or 240 seconds.

You may set the value to the desired Motion Sensor delay time to any amount of seconds as you like. So if you want the time out to be 5 minutes after the Motion Sensor is triggered, set this parameter to 300.

Adjusting the sensitivity of your MultiSensor.

Turn the Sensitivity Knob in a clockwise direction to increase sensitivity and counter-clockwise to decrease sensitivity.

Monitoring temperature, humidity and luminance.

Your MultiSensor can report temperature, humidity, and luminance across a Z-Wave network when requested. If this function is supported by a controller, generally a gateway, the data will be displayed within its interface. The specific Z-Wave commands for the support of monitoring is the Multilevel Sensor Command Class and Multi Channel Command Class. Automatic reports are sent to association group 1, which is setup via the Association Command Class. Please consult the controller's operation manual for specific instructions on setting your MultiSensor.
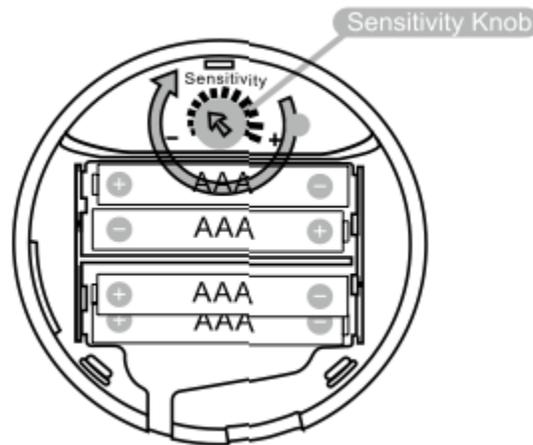
Setting automatic report flags.

Parameter 101-103 [4 byte decimal] can be configured through your gateway in case the default settings of your MultiSensor are not what you desire.

Decimal	Sensor
128	Light Sensor
64	Humidity Sensor
32	Temperature Sensor
1	Battery Sensor

The table above shows a decimal representation of all flags that can be set on parameter 101-103 to report specific data.

Example use of the report table.

For example, if you want to report only the temperature and light sensor you would add 32 + 64 and set the sum (96) to parameter 101, 102, or 103.

As another example, if you want to report only the light sensor and battery, you would add 1 + 128, then set the sum (129) to parameter 101, 102, or 103.

And if you want to report all of the sensors, you would add the whole table together and set the sum (225) to parameter 101, 102, or 103.

Setting an automatic report interval.

Parameter 111-113 [4 byte decimal] can be configured through your gateway in case the default settings of your MultiSensor are not what you desire.

Parameter 111 will set the interval for Group 1 (parameter 101), parameter 112 will set the interval for Group 2 (parameter 102), and parameter 113 will set the interval for Group 3 (parameter 103).

As an example, you have set parameter 101 to 225 which will report all of the sensors, and you want to report it every 1800 seconds. Set parameter 111 to 1800 to accomplish this.

Waking up your Multisensor.

There are 2 methods to waking up the Multisensor Gen5 which will both react differently. One will just send a wake up notification to take in any queued action. While keeping your sensor awake will allow you to send configurations right away.

Send a wakeup notification.

To send a wakeup notification to your gateway, follow the steps below:

1. Press and hold its Z-Wave Button for 3 seconds
2. Release the sensors button
3. The LED will light up and flash a little bit, if a command is queued, it will blink rapidly during the communication, otherwise it will go back to sleep.

Wakeup Multisensor Gen5 for 10 minutes.

To wake up your Multisensor Gen5 for a longer duration of time, follow the steps below:

1. Triple tap the Multisensor Gen5 button within 1 second
2. The LED will stay on for as long as it is awake.
3. Now send in your commands and configurations of what you want to do (poll, configure, set association, etc).
4. When you are done, put your sensor to sleep by triple tapping the Multisensor Gen5 button within 1 second again and the LED should turn off.

Additional information on other Gateways uses.

Smartthings Hub.

If you find that the motion sensor is not working or is frozen on your SmartThings hub, please refer to the article below to install a custom device handler that will solve your issue.

You can find the article for the custom device handler here: https://aeotec.freshdesk.com/solution/articles/6000168290-multisensor-gen5-smartthings-custom-device-handler-

The article contains a text file containing the code you need to use to install into your SmartThings hub. If you need help installing the custom device handler, please contact support about this.

Resetting your MultiSensor.

This method is not fully advised unless your gateway has failed, and you do not yet have another gateway to perform a general unpair on Multisensor Gen5.

1. Press and hold Multisensor Gen5 Action button (For 20 seconds)

2. The LED of the Multisensor Gen5 will flash faster and faster. At 20 seconds, the LED should become solid for 1-2 seconds to confirm factory reset.

3. Release the Multisensor Gen5 Action Button.

More Advanced Configurations.

You can find more advanced configurations for Multisensor Gen5 in our Engineering Sheet section on our Freshdesk which can be used to integrate Multisensor Gen5 into a new gateway or software, or use it as a reference for configurations.

1. [Multisensor Gen5](#)