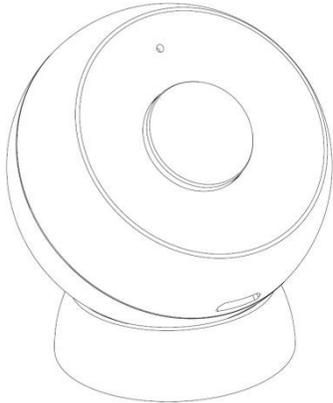# MOTION SENSOR   HKZW-MS02-V1.0
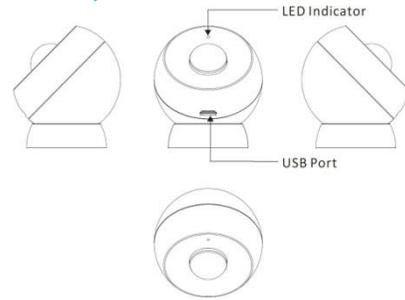
Operating Manual

Thank you for your support!

Please read the user manual carefully before operating the device.
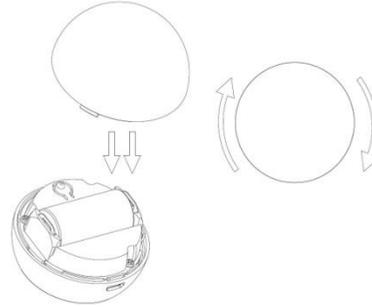Please keep the user manual for future reference.

Product Introduction

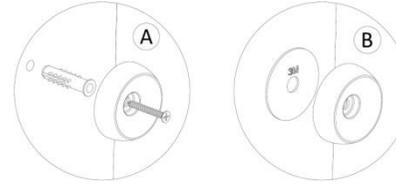The motion sensor is a Z-Wave based sensor. It will send radio signals to associated Z-Wave devices within its own Z-Wave network when it detects IR changes.

It is allowed to be installed on a shelf, in the corner of your room, anywhere on the wall and even at the ceiling.

Features list:

1) Z-Wave series 500 protocol
2) Supports security 0 and security 2 protected mode with AES-128 encryption
3) Tamper alarm by vibration sensor
4) Up to 1 year battery life
5) Low battery alert
6) Supports firmware OTA (over the air update)

GENERAL INFORMATION

Product Layout

Specifications

Power supply:	3V: 1x CR123A or USB
Standby current:	about 20µA
Working current:	about 55mA
Recommended installation height:	2m ~ 4m
Storage environment:	-10 ~ 50 °C 0% ~ 80% rH
Operating temperature:	0 ~ 40 °C
Radio protocol:	Z-Wave
Radio frequencies:	868.42 MHz (EU) 908.42 MHz (US) 921.42 MHz (AU)
Range:	More than 100m outdoors About 30m indoors (depending on building materials)
Dimension:	50mm (Ø)

INSTALLATION

1) Turn the cover counter-clockwise and open it.

2) Remove the battery blocker.

3) Add the device (see "Adding/removing the device").
4) Close the cover and turn it clockwise.

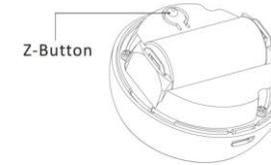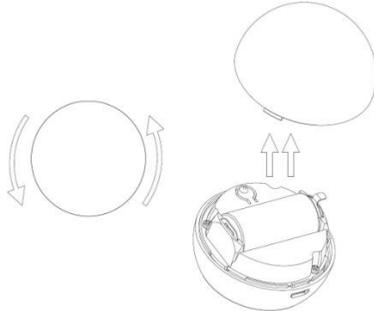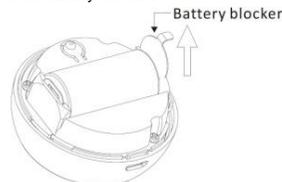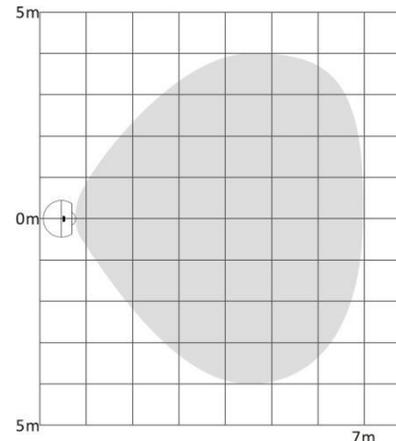
5) Place the sensor to anywhere you want.

The sensor's motion detection area is shown as below. The actual range of the sensor can be influenced by environment conditions. Should false motion alarms be reported, check for any moving objects within the sensor's detection area, such as trees blowing in the wind, cars passing by, windmills, pets, etc.
False motion alarms may be caused by moving masses of air and heat as well. If the device keeps on reporting false alarms, despite eliminating all of the above-mentioned factors, install the device in another place.

Approximate detection area:

ADDING/REMOVING THE DEVICE

Include as a non-secure device:

1) Open the cover.
2) Place the device within direct range of your Z-Wave controller.
3) Set the Z-Wave controller into the Add (inclusion) mode (see controller operating manual).
4) Click the Z-Button once or triple click the Z-button quickly, the LED indicator should blink fast.

5) Wait for the adding process to end.
6) A successful adding will be confirmed by the Z-Wave controller's message.

Include as a secure device (S0 or S2):

1) Open the cover.
2) Place the device within the direct range of your Z Wave controller.
3) Set the Z-Wave controller into the security Add (inclusion) mode (see controller operating manual).
4) Press and hold the Z-Button for more than 3 seconds and then release, the LED indicator should blink fast.
5) Wait for the adding process to end.
6) Successful adding will be confirmed by the Z-Wave controller's message.

> **TIP:** If you want your motion sensor to be a secure device and use secure/encrypted messages to communicate in the Z-Wave network, then a security enabled Z-Wave controller is required.

Removing:

1) Open the cover.
2) Place the device within the direct range of your Z Wave controller.
3) Set the Z-Wave controller into the Remove mode (see controller operating manual).
4) Triple click the Z-Button quickly, the LED indicator should blink fast.
5) Wait for the removing process to end.
6) Successful removing will be confirmed by the Z-Wave controller's message.

ASSOCIATION

Associations allow the motion sensor to control other Z-Wave devices such as Smart Switch, Smart Dimmer, etc. It supports two association groups and can associate maximum 5 nodes in each group.

Group 1 reports the motion detection and battery level.
Group 2 is assigned to send BASIC SET command.

WAKE UP INTERVAL

Available settings: 0 ~ 2678400
Default setting: 0

This defines a time period after which the motion sensor sends a wake up notification command to communicate with the assigned device, update parameters, update software, detects battery level, etc.

A wake up interval set between 0 and 59 disables the sending of the wake up notification command. In such a configuration you can manually wake the device up by pressing the Z-Button.

> **NOTE:** The step of the wake up interval is 60 seconds. This means the motion sensor will send a wake up notification command after a time that is a multiple of 60 seconds. Setting examples:
>
> **0 ~ 59 = 0 seconds**, the device will not wake up by itself.
>
> **60 ~ 119 = 60 seconds**, the device will wake up every 60 seconds.

RESETTING

The reset procedure clears the motion sensor's memory, including Z-Wave network controller information. To reset the motion sensor:

1) Power on the device.
2) Press and hold the Z-Button for more than 20 seconds.
3) After holding for 20 seconds, the LED indicator will keep on for 2 seconds, which means the reset is complete.
4) The reset feature works only when the device has been included into a Z-Wave network.

> **NOTE:** Use this procedure only in the event that the network primary controller is missing or otherwise inoperable.

ADVANCED CONFIGURATION

The motion sensor offers a wide variety of advanced configuration settings. The parameters below can be accessed from main controllers configuration interface (see controller operating manual).

Parameter No. 12 Motion sensor's sensitivity

The higher the value, the more sensitive the PIR sensor is.

0 - Disabled motion detection
Available settings: **0 ~ 8**
Default setting: **8**
Parameter size: **1 [byte]**

Parameter No. 14 Enable/disable BASIC SET command

The motion sensor can send a BASIC SET command to nodes associated with group 2 when motion is triggered.

0 - Disabled
1 - Enabled
Default setting: **0**
Parameter size: **1 [byte]**

Parameter No. 15 Value of the BASIC SET

The motion sensor can reverse its value of BASIC SET when motion is triggered.

0 - Send BASIC SET VALUE = 255 to nodes associated with group 2 when motion alarm is triggered.

Send BASIC SET VALUE = 0 to nodes associated with group 2 when motion alarm is canceled.

1 - Send BASIC SET VALUE = 0 to nodes associated with group 2 when motion alarm is triggered.

Send BASIC SET VALUE = 255 to nodes associated with group 2 when motion alarm is canceled.

Default setting:	**0**
Parameter size:	**1 [byte]**

Parameter No. 17 Enable/disable shock alarm
0 - Disabled
1 - Enabled

Default setting:	**0**
Parameter size:	**1 [byte]**

Parameter No. 18 Motion alarm cancellation delay
The motion alarm will be cancelled in the main controller and the associated devices after 3 seconds, the alarm cancellation can be delay by this parameter. Any motion detected during the cancellation delay time countdown will result in the countdown being restarted.

Available settings:	**0 ~ 65535 [seconds]**
Default setting:	**0 [seconds]**
Parameter size:	**2 [byte]**

Parameter No. 32 Level of low battery
Define a battery level as the "low battery".

Available settings:	**10 ~ 50 [%]**
Default setting:	**20 [%]**
Parameter size:	**1 [byte]**