B·ONE
AllThings. Be One™

USER MANUAL

B.One Motion Sensor
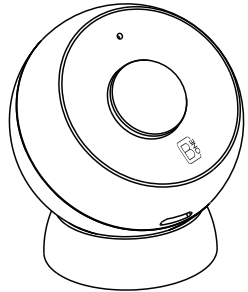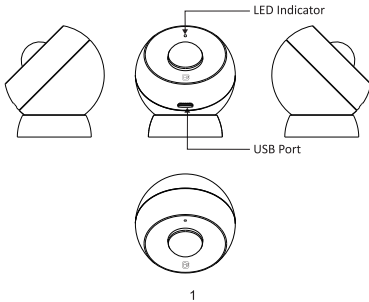
B1MS02-ZW-XX

XX = ☐ US ☐ AU ☐ EU

The B.One Motion Sensor is a Z-Wave based ultra low power consuming P.I.R motion detector. It communicates with an associated Z-Wave controller / gateway whenever there is a human motion in its vicinity. It can be fixed to a wall or mounted on a table.

Features of B.One Motion Sensor:
(1) Z-Wave plus certified for wide compatibility (500 series)
(2) Supports S2 protected mode with AES-128 bit encryption.
(3) Upon tampering or detection of vibration / shock, the sensor reports to the connected Controller / Gateway automatically.
(4) Battery lasts for upto 1 year when operated for 10 times per day.
(5) Motion Sensor can even alert Controller / Gateway of low battery status.
(6) Supports OTA firmware updation.

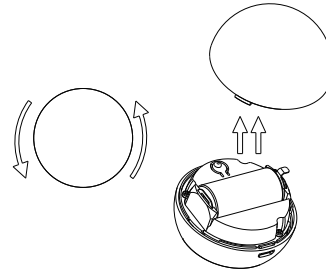### I. GENERAL INFORMATION

1. Product layout

LED Indicator
USB Port

1

---

2. Specifications

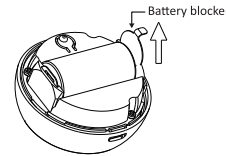|	
Power supply:	1xCR123A,3V or USB
Storage environment:	-40~70 °C, 0%~90% RH
Operating Temperature:	0~40 °C
Radio protocol:	Z-Wave Plus
Radio frequency:	868.42MHz (EU) 908.42MHz (US) 921.42 MHz (ANZ)
Range:	More than 100m outdoors about 30m indoors
Dimensions:	50mm(Φ)
Working current:	About 55mA
Standby current:	About 20uA
Recommended installation height:	2m~4m

2

II. INSTALLATION

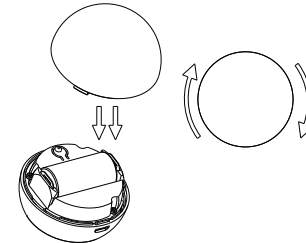1. Turn the cover counter-clockwise and open it.

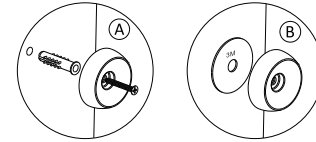2. Remove the battery blocker.

Battery blocker

3. Add the device (see "Adding/removing the device" in page6).

3

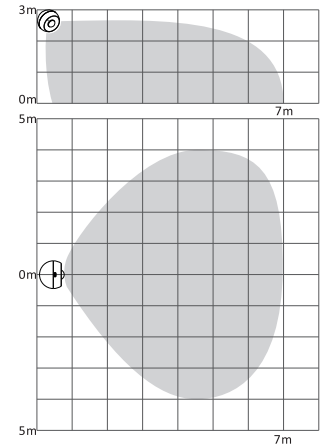4. Close the cover and turn it clockwise.

5. Place the sensor wherever you want.

A   B

⚠ **NOTE:**
Motion Sensor should be placed at least 2 feet away from any source of Heat or Light. Failing to do so will result in false alarms.

4

---

6. The Motion Sensor's detection area is shown in the figure below. False alarms will be reported by this sensor if there are any objects like pedestal or ceiling fans, trees, moving vehicles in the detection area of this sensor. Avoid installation of this sensor close to any heat sources and LED / CFL lamp driver circuits. If constant false alarms are triggered by this sensor, please move the sensor to another suitable location.
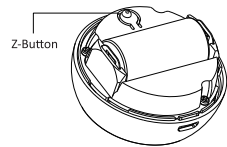

5

III. Z-WAVE NETWORK INCLUSION

Motion Sensor can be included and operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers and / or other applications. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

(1) Open the cover and ensure that the battery is inserted.
(2) Place the device within the direct range of your Z-Wave controller.
(3) Set the main controller to inclusion mode (see the controller's manual).
(4) Click the Z-Button once or triple click the Z-Button quickly, the LED indicator should blink fast.

Z-Button

(5) Wait for the adding process to complete.
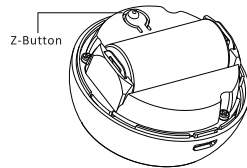(6) Successful addition will be confirmed by the Z-Wave controller's message.

⚠ **NOTE:**
If you want your Motion Sensor to be security device that uses secure/encrypted message to communicate in a Z-Wave network, then a security enabled Z-Wave controller is needed.

6

IV. REMOVING FROM Z-WAVE NETWORK

To remove a Motion Sensor from the Z-Wave network:
(1) Open the cover and ensure that the battery is inserted.
(2) Place the device within the direct range of your Z-Wave controller.
(3) Set the main controller to exclusion Mode (see the controller's manual).
(4) Triple click the Z-Button quickly, the LED indicator should blink fast.

Z-Button

(5) Wait for the removing process to complete.
(6) Successful removing will be confirmed by the Z-Wave controller's message.

V. RESETTING

Reset procedure clears the Motion Sensor's memory:
(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 is included into a Z-Wave network.

7

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

VI. ASSOCIATION

Association allows Motion Sensor to control another Z-Wave device such as Smart Switch, Smart Dimmer, etc.
Motion Sensor supports two association groups.
Motion Sensor can associate with maximum of 5 nodes in each group.

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

VII. WAKEUP

Wakeup interval

Available setting: 0-2678400
Default setting: 0

Defining a time period by which the Motion Sensor sends a wakeup notification command frame to communicate with the assigned device, update parameters, update software, detect battery level. Wakeup interval set to '0' disables sending wakeup notification. In such configuration, manually wakeup the device by pressing Z-Button.

8

⚠ **NOTE:**
3600 seconds is the step of wakeup interval time. Which means, Motion Sensor will send wakeup notification command by a timeline that is multiples of 3600 seconds.
Setting examples:
0~3599=0 second, the device will not wakeup by itself.
3600~7199=3600 seconds, the device will wakeup every 3600 seconds

VIII. ADVANCED CONFIGURATIONS

The Motion Sensor offers few advanced configuration settings. Below parameters can be accessed from main controllers configuration interface.

Parameter No. 12 MOTION SENSOR'S SENSITIVITY
The higher the value, the more sensitive the PIR sensor.

Available settings: 1-8
Default setting: 8
Parameter size: 1 [byte]

Parameter No.14 ENABLE/DISABLE BASIC SET COMMAND
The Motion Sensor can send BASIC SET command to nodes associated with group 2 when motion is triggered.

0 - Disable.
1 - Enable.
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.

9

---

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.18 MOTION ALARM CANCELLATION DELAY
The Motion alarm will be canceled in the main controller and the associated devices after 3 seconds, the alarm cancellation can be delayed by this parameter. Any motion detected during the cancellation delay time countdown will result in the countdown being restarted.

Available setting: 0-65535 (seconds)
Default setting: 30 (seconds)
Parameter size: 2[byte]

Parameter No.32 LEVEL OF LOW BATTERY
Define a battery level as the "low battery".

Available setting: 10-50 (10-50%)
Default setting: 20 (20%)
Parameter size: 1[byte]

10

Package contents:

1. Motion Sensor (x1)
2. Magnetic Base (x1)
3. Double-Sided Tape (×2)
4. Mounting Screw (×1)
5. CR123A Battery (x1)
6. User manual (x1)

11