



Model No.: MSA035 Z1, MSA050 Z1  
Lifebeing Sensor User's Manual

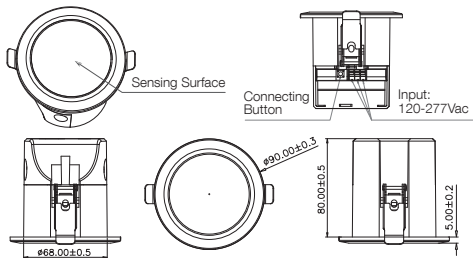
## **ATTENTION**

1. The product shall be installed by a professional electrician. Please disconnect the power before installation and wiring. Before the product is powered on, please confirm that the input voltage range meets the requirements of the manual.
2. Please read the relevant contents in this manual carefully before using the product.
3. This product is designed for indoor use only.
4. Ensure that the product is installed in a relatively dry and ventilated environment.
5. Keep away from metal plates, concrete walls, and beams during installation to avoid blocking microwave signals.
6. Install the sensor as far as possible from glass, wood, gypsum board and other materials that are easily penetrated by microwaves to avoid false triggering.
7. Avoid long-term vibrating equipment or moving objects around the sensor. The vibration signal will be regarded as the motion signal to trigger the sensor.
8. If a pet passes by in the detection area, it may trigger the sensor.
9. The sensor should be installed far away from wireless devices such as network switches and routers, and installation interval should be at least 2 meters to avoid radio interference.
10. In order to ensure the accuracy of presence detection, the sensor should be installed in the area of personal activity and avoid installing behind the person.

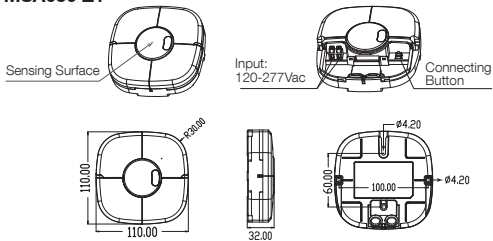
## **Product Introduction**

This product adopts ZigBee wireless communication data transmission, combined with Merrytek 5.8GHz high-gain microwave presence sensing technology, can analyze people's behavior status (active, leisure, presence and unoccupied status), and collect environmental illuminance output. The human body state and illuminance signals are inserted into the Tuya system as a data acquisition unit to intelligently control electronic equipment such as lighting products, curtains, air conditioners, ventilation system, background music and so on.

## MSA035 Z1



## MSA050 Z1



Tolerances:  $\pm 0.3\text{mm}$

## Parameters

Operating Voltage	120-277Vac, 50/60Hz
Stand-by Power	≤1.5W
Operating Frequency	5.8GHz
Detection Area (Note 1)	0%/25%/50%/75%/100%, Set via APP
Hold Time (Note 2)	30s, 1min, 2min, 3min, 5min, 10min, 20min, Set via APP
Detection Range (Radius) (Note 3)	Big motion (Walk Signal): 3-4m Minor motion (move head, raise hands etc): 3-4m Breathing (Stationary state): 2-3m
Mounting Height	2.5-4m
Installation	Flush Mounted (MSA035 Z1), Surface Mounted (MSA050 Z1)
Operating Temperature	0 °C - 50 °C
Storage Temperature	-35 °C - 80 °C

### Note:

1. The higher sensitivity, the farther detection range. In case of microwave crossing the wall or false triggering, the sensitivity should be reduced. When it is set to 0%, the motion detection function of the microwave sensor is shielded, no matter whether there is someone moving, the device will be automatically shut down after the hold time, which is usually used to debug the intermodal logic.
2. In order to make sure the testing effect, please set the "hold time" to more than 1minute when space is with only 1 person.
3. The detection range of the sensor is related to the installation height, the height and moving speed of the person, the relative position of the person to the sensor, the size of the installation environment, whether there are obstructions and reflectors and other factors. The data in the table is tested by a 165cm person, facing the sensor with no obstructions on his chest and belly, walking slowly at 0.3m/s in an open area with sensor mounted of 3 meters.

### Human motion signal interpretation:



Big motion signal activates

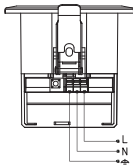


Minor motion maintains

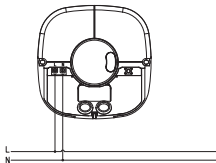


Breathing maintains

## Wiring



MSA035 Z1  
Remarks: Ground wire can  
be left unconnected

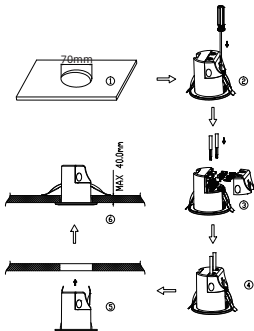


MSA050 Z1

## Installation Instruction

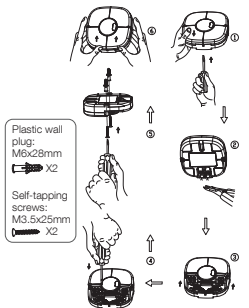
### MSA035 Z1

1. Cut a hole of 70-80mm on the ceiling.
2. Open cover by small straight screw.
3. Loosening clamp and wiring.
4. Screw clamp and put the cover.
5. Open spring clip outward and install.
6. Adjust and make sensor flat with ceiling.



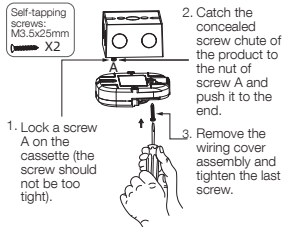
# MSA050 Z1

## Ceiling Mounted



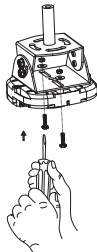
## Bottom Case Mounted

To dig a groove on the installation surface to embed the bottom case first:



## Suspending Mounted

The suspension bracket are non-standard accessories, if necessary, please contact the manufacturer or distributor to provide.



## Instructions

1. Initialization: After power on, the indicator light flashes for 20 seconds and then turns off. During initialization, the sensor does not communicate with the communication module and does not detect external movement signals. After the initialization is completed, it enters the normal working state.
2. This product is compatible with Tuya Smart and Light + Place (by Volcano Technology Limited) APP. Scan the QR code below to download the APPs.



Tuya Smart APP



Light+Place APP

3. Pairing instructions: Long-press the connecting button of sensor to access the pairing mode. Open the APP, go to Add Manually>Sensors>Motion Detector>Motion Detector (Zigbee) and select the gateway to connect.



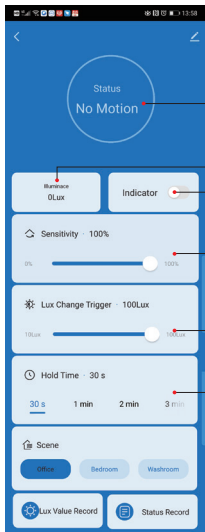
MSA035 Z1



MSA050 Z1

- 1) Long press the connecting button for more than 3 seconds to enter the pairing mode. The green indicator flashes for 1 minute to enter the network connecting state. For batch application, you can also enter the mode by pressing the Test (2s) button of the remote control (remote control model MH10, please purchase separately if necessary)
- 2) After the device is successfully connected to the network, the LED indicator will stay ON for 10 seconds and then OFF. If the network connection fails, the LED indicator will flash for 10 seconds.

# App Interface



## Human Activity Analysis:

- 1) No Motion: no one in the detection area.
- 2) Big Motion: the person is in a state of large movement, such as walking.
- 3) Minor Motion: people are in a state of micro-movement, such as reading a book or drinking tea.
- 4) Breathing: The person is in a static state, and only the breathing signal is detected.

## Status Report:

- 1) Report immediately from No Motion state to the occupied state.
- 2) When in an Big/Minor Motion state, report once every 30 seconds.
- 3) When the Breathing state or the Minor Motion state is switched to the Big Motion state, the report will be delayed for 3 seconds.
- 4) After the person leaves the detecting area, the sensor reports "No Motion" after the hold time elapses.

Report the current illuminance value. Report every 30 seconds, and report immediately when the environmental illuminance changes beyond the Lux Change trigger setting.

Switch on/off the indicator light  
Detected big/ minor movement signal: real-time flashing  
Detected breath signal: flash three times quickly

Detection area: 0%/25%/50%/75%/100%

Lux Change Trigger setting. Report immediately when the environmental illuminance changes exceed the setting.

After the person leaves the detecting area, the sensor reports "No Motion" after the hold time elapses.  
Hold time: 30s/1min/2min/3min/5min/10min/20min

\*The operation interface and the position of various parameters may be updated continuously. The image here is indicative only. If there is inconsistency between the image and the actual product, the actual product shall govern.



## FAQ

Fault	Cause	Remedy
The sensor is self-triggered or the load will permanently illuminated	Microwave can penetrate glass, wood and other non-metallic materials.	Reduce the detection area.
	The sensor is installed close to the wireless device.	Installed the sensor 2 meters away from the wireless devices.
	There are vibration or jitter signals in the installation environment.	1. Make sure that there are no other motion signals in the space, such as vibrating equipment, rotate fan, curtain swinging. 2. Reduce the detection area.
The load will not illuminate despite movement or breath	The position of the person exceeds the coverage area of the breath signal detection.	Adjust the installation position.
	The installation position of sensor is behind or to the side of the person.	Adjust the sensor installation position and make sure to install the sensor above the front of the person.
	The microwave signal is blocked by obstacles.	Adjust the sensor installation position and keep it away from obstacles.

## **After-sales and Warranty**

1. Free maintenance service is provided for failures caused by the product during the warranty period.
2. Damages that are not caused by our company's actions such as handling, dropping, installation, use, maintenance, and improper storage by the user are not covered by the warranty.
3. Unauthorized smearing or tampering with labels, model no., product appearances, and circuits are not covered by the warranty.
4. Man-made damage caused by unauthorized disassembly and modification is not covered by the warranty.
5. Out-of-warranty products do not provide warranty services, and can provide paid maintenance services depending on the situation.
6. Damage caused by using without following instruction or due to force majeure factors, such as, fire, earthquake, etc., is not covered by the warranty.
7. Any exterior decoration and accessories of the body are not warranted, such as connecting cables, cabinets, panels, cabinet accessories, etc.

# Merrytek Sensor Warranty Certificate

## Customer Information:

Customer's Name \_\_\_\_\_ Male/  
Female \_\_\_\_\_ Customer's Phone \_\_\_\_\_

Customer's Address \_\_\_\_\_

## Product Details:

Product Name \_\_\_\_\_ Model No. \_\_\_\_\_

Batch Code \_\_\_\_\_ Date of Purchasing \_\_\_\_\_

Place of Purchasing \_\_\_\_\_ Invoice No. \_\_\_\_\_

Store Address \_\_\_\_\_

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Store Address \_\_\_\_\_



The product model, parameters and performance of this manual are subject to change without notice. The copyright belongs to Shenzhen Merrytek Technology Co., LTD

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