INSTRUCTION

Product Name: ZigBee LifeBeing Sensor

Model No.:   MSA042D Z1

Issue Date: July 1, 2021

Attention
1. The product shall be installed by a professional electrician. Please disconnect the power before installation, wiring or changing the setting of by DIP switch 2. Please read the relevant contents of this manual carefully before using the product. 3. This product is only suitable for indoor environment. 4. Ensure that the product is installed in a relatively dry and ventilated environment. 5. Before the product is powered on, please confirm that the input voltage range meets the requirements of the manual. 6. Keep out of reach of children.

1. Product Feature

1) Built-in LifeBeing motion sensor and daylight sensor.

2) It can accurately detect and distinguish big motion, minor motion, breathing signals and illumination changes to interact with different lights, air conditioners, background music, etc.

3) Based on 2.4G ZigBee protocol, can connect with various Tuya smart devices, and controlled by Tuya App.

4) 12-24V DC input.

5) Effectively resist 5G, Wi-Fi, Bluetooth and other wireless signal interference due to the patented low-impedance antenna design.

6) Independently flush-mounted.

Powered by
tuya

2. Specification

Working Voltage	DC 12-24V
Working Current	32±2mA（12V DC)
Communication Method	ZigBee
Working Frequency	5.8GHz±75MHz
Detecting Angle	120°
Transmitting Power	5mW Max.
Detecting Range(radius)	big motion detecting range: 3-4m minor motion detecting range: 3-4m Breathing detecting range: 2-3m
Detection Area	100% 75% 50% 25%(set by remote control or serial port)
Hold Time	30s /1min / 2min/ 3min /5min /10min /20min(set by remote control or APP)
Daylight Sensor	The ambient light level is reported to the 2.4GHz ZigBee module every 30s. If the value changes suddenly, it will be reported immediately. The sudden change value (10-100lux) can be defined in the APP.
Daylight Range	0 -1200Lux（collected below the sensor, height of 3m）
Daylight Compensation Factor（multiple)	1-100（the daylight range is 0-1200 Lux when the compensation factor is 1）
Mounting Height	2.5-4.0m
Installation Way	flush-mounted of the ceiling
Wring	KNX terminal
Working Temperature	0℃~+50℃
Long-term Storage Temperature	-25℃~+80℃
Package	partition + outer box (K=A)
Net Weight	70±3g
Life time	5 years warranty

Shenzhen Merrytek Technology Co.,Ltd
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3. Product Function

The product adopts a mechanism to report human body status information **(no motion, big motion, minor motion, breathing)** and the light level in every 30 seconds through the MCU serial port.

Big motion activates   Minor motion & breathing maintains

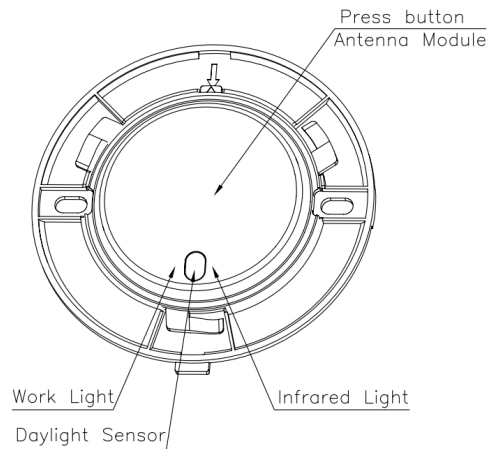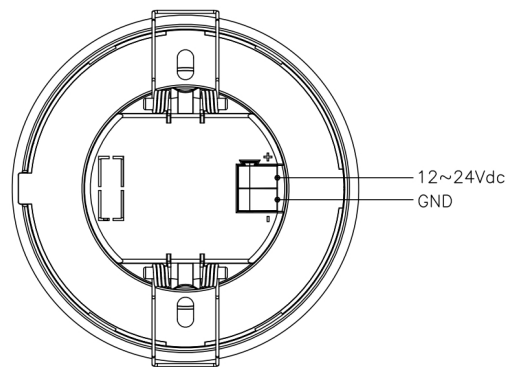**Big Motion:** a large movement (walking) of the human body is detected within 30S.

Minor Motion: only small motion of the human body are detected within 30S, such as: forward, backward, limb swing, head shaking, typing, playing with mobile phones and other minor actions.

Breathing: only detects human breathing within 30S (abdominal cavity, thoracic cavity expansion behavior actions), no significant movement is detected.

Light Level Report: report the current light level when the light level changes in the preset range.

1) Sensitivity, indicator light, and hold time function are set through the Tuya APP.
2) The motion sensor doesn't work when the sensitivity is set to 0%.
3) Human occupancy detecting function for switch and automation.
4) Big motion, minor motion, and breathing signals are separated to realize different behavior control mode.
5) Status display available after triggered (unmanned / occupied:big motion, minor motion, breathing).

4. Dimension (mm)
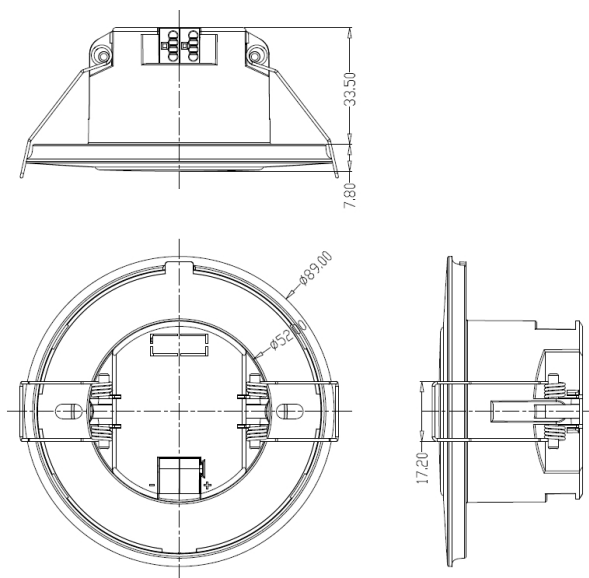
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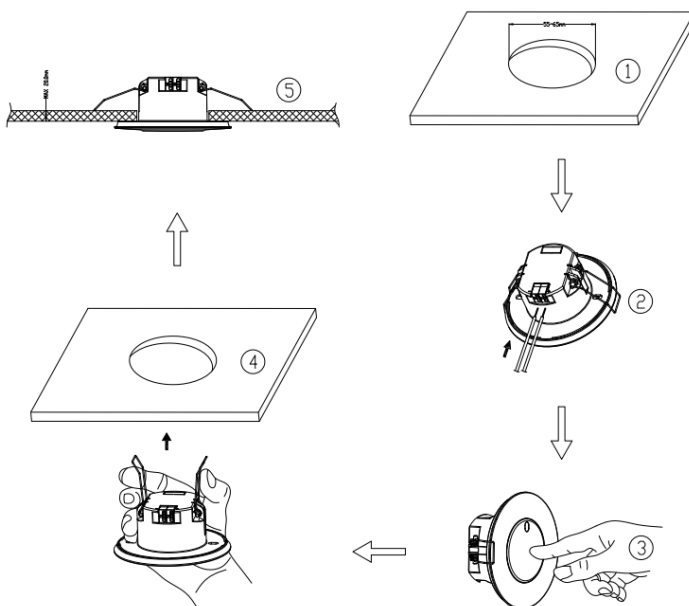page 3 of 7

5. Structure

Press button
Antenna Module

Work Light

Daylight Sensor

Infrared Light

6. Wiring

12~24Vdc
GND

7. Installation

1) Flush mounting

1. Cut hole φ55-65mm for flush mounting.

2. Connect wire on the terminal.

3. The middle circle is the pairing button

4. Bending the spring clip backward to push it into the pre-opened hole in the ceiling

5. Make sure it's stable and reliable after installation

2) Flush mounting in 86 box
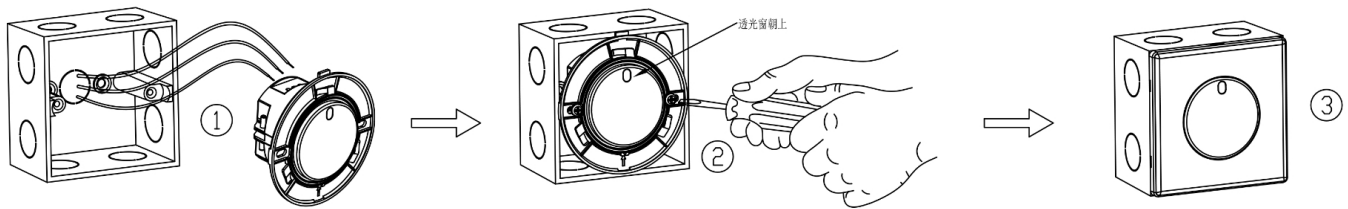
1. Connect wire on the terminal

2. Fasten the product to the junction box(light window upward)
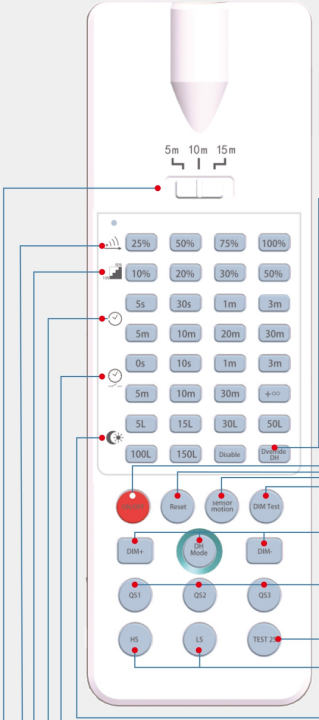
3. Make sure it's stable and reliable after installation

8. Detection Area
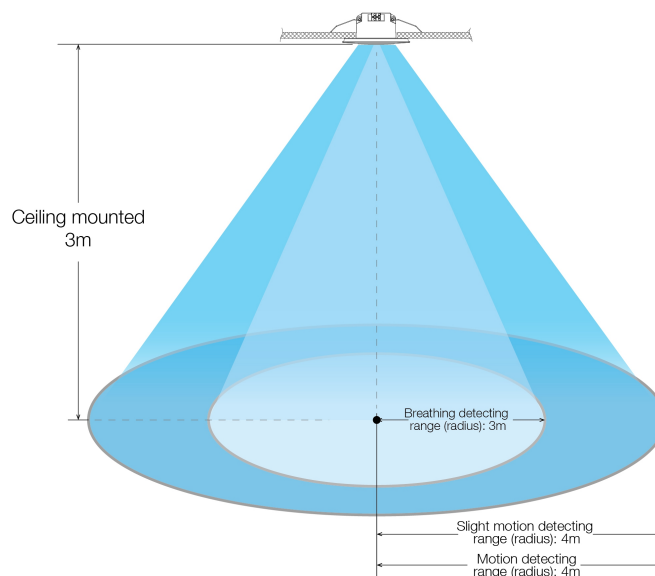
Note:

1. Considered the features of electromagnetic wave transmitting, the effective range of radar will vary to some extent as the radar is related to size of transmitter and material and thickness of the target cover.

2. Electromagnetic waves in centimeter wave frequency band can penetrate non-metallic materials, such as glass, wooden board, screen and thin wall and can detect the moving objects behind cover but can not penetrate thick wall, metal door and so on.

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9. Remote Control

Panel settings	Button	Function Description
	ON/OFF	Pressing the "ON-OFF" button, sensor is disabled. There is no power off memory function. Power on again, automatically starting sensing mode.
	Reset	Pressing the "Reset" button, all parameters are changed to factory settings.(Detecting area: 100%, Hold time: 30s, Indicator light: on).
	Sensor motion	Pressing "Sensor motion" button, sensor starts to work.
	DIM Test	N/A
	Override DH	N/A
	DIM + DIM - / DH Mode	N/A
	QS1 QS2 QS3	Application scene selection: QS1: Office QS2: Bedroom QS3: Washroom
	TEST 2S	Connect to the network
	HS LS	HS: Turn ON indicator light LS : Turn OFF indicator light
	☾☀	N/A
	⏱	N/A
	⏱	Hold time Setting : 5s/30s/1min/3min/5min/10min/20min/30min
	📊	N/A
	.)))	Detection area Setting : 25%/50%/75%/100%
	5m 10m 15m	Remote Distance Toggling the button can set the distance of remote control controlling sensor

Notice:

Since there is no 5S, 30min hold time option on the APP, the hold time button on the remote control is set to 5S or 30min, the hold time of the product is already 5S or 30min, but the hold time displayed on the APP is still the last one .

10. Initialization

The Initialization will be finished after indicator light flashes for 20 seconds when the initial power-on. During the initialization period, the external movement signal is not detected. The indicator light can be turned on/off through the APP, as well as the hold time and detection range (sensing distance).

11. Application Notice

1) The sensor should be installed by a professional electrician. Please disconnect the power before installing, wiring or changing the setting of the dial switch.
2) Put the sensor as far as possible from large areas of metal plate, glass and other materials with high medium density to avoid triggering by mistake.

3) Avoid using objects that vibrate for a long time around the sensor, such as a shaking head fan. The vibration signal will be regarded as a movement signal to activate the sensor.

4) Avoid the detection window of the daylight sensor of the detector irradiated by an invalid light source, which will interfere with the measurement of ambient light.

5) The product should not be too close to the wireless router at least more than 2m apart, when it is installed and used.

6) Setting detecting area and indicator on-off by MH10.(Pressing HS in MH10 makes indicator on and pressing LS in MH10 makes indicator off.)

7) Sensor's microwave can penetrate wall of building. It may cause misreport when microwave penetrates wall to detect the moving objects outside fortified area. To avoid triggering by mistake, choose suitable place when installing, keep away from glass, plasterboard, wooden wall and other things that microwave can easily penetrate and choose appropriate sensing parameters according to space, for examples:

    A. When product is used in the room whose length and width is about 2m or less, detecting area should be set to 25% (application scenario: washroom, sitting room)

    B. When product is used in the room whose length and width is about 3m, detecting area should be set to 50% (application scenario: washroom, hallway, sitting room)

    C. When product is used in the room whose length and width is about 4m, detecting area should be set to 75% (application scenario: small office, meeting room, library)

    D. When product is used in the room whose length and width is about 5m or more, detecting area should be set to 100% (application scenario: large office, meeting room, library)

    Note: The setting detecting area depends on the actual environment (detecting area parameters above application scenario are for reference only).

8) Hold time setting: space of one person: 1-3 minutes, space of more than one person: 30 seconds to 1 minute. It is not recommended to set a hold time of more than 5 minutes, so as to avoid the small motion signal in the space from interfering with the hold-time closing..

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