LifeSmart

毫米波雷达人体存在感应器 (ZigBee)

型号: MSA201 Z
使用手册

Human Presence Sensor (Radar Detector, ZigBee)

Model: MSA201 Z
User Manual

一. 使用之前

1. 本产品应由专业电工安装，在安装、接线前请先断电。产品上电前，请确认输入电压范围符合手册的要求。
2. 使用之前，请仔细阅读本手册的相关内容。
3. 本产品只适合室内安装使用。
4. 确保本产品安装在相对干燥的环境下。
5. 安装时应远离金属板、混凝土墙、横梁，以避免遮挡微波信号。
6. 安装时应远离玻璃、木板、石膏板等易被微波穿透物质，以免误触发。
7. 应避免传感器周边有长期震动设备或者移动物体，震动信号将被视为移动信号触发感应。
8. 如检测区域内有宠物经过，可能触发感应。
9. 传感器宜远离交换机、路由器等无线设备，安装间隔至少0.5米，以避免无线电干扰。
10. 为保障存在探测准确度，传感器感应装在人员活动区域，且避免安装于人员背后。具体安装布点规范，请咨询当地购买渠道及服务商。
11. 传感器安装间隔2米以上，以免互相干扰。

二. 电子信息产品有毒有害物质申明

部件名称	有毒有害物质或元素					
	铅 Pb	汞 Hg	镉 Cd	六价铬 Cr(VI)	多溴联苯 PBB	多溴二苯醚 PBDE
塑料件	○	○	○	○	○	○
金属件	○	○	○	○	○	○
PCBA	○	○	○	○	○	○

本表依据SJ/T 11364-2014的规定编制。

○：表示该有毒有害物质在该部件中所有均质材料中的含量均在GB/T26572-2011规定的限量要求以下；

X：表示该有毒有害物质至少在该部件的某一均质材料中的含量超过在GB/T26572-2011规定的限量要求。



本标识内数字表示产品在正常使用状态下的环保使用期限为10年，某些部件也可能有环保使用期限标识，其环保使用年限以标识内的数字为准。

三. 售后及保修

1、本产品支持售出后7天内无条件退换货。质保期内因产品原因造成的故障提供免费维修服务。

2、用户搬运、掉落、安装、使用、维护、保管不当等非因我公司的行为造成的损坏，不在保修范围。

3、私自涂抹、篡改标签、型号、产品外观、电路的，不在保修保范围内。

4、私自开拆、改装而造成的人为损坏不在保修范围内。

5、质保期外产品不提供质保服务，可视情况提供有偿维修服务。

6、不按说明书使用或者因不可抗力因素（如：火灾、地震等）造成的不良不在保修范围。

7、任何机体外观之装饰及附件不予保修，如连接线缆、机壳、面板、机壳附件。

8、妥善保管质保凭证，非授权渠道购买的产品，不在保修范围。

四. 产品介绍

本产品应用ZigBee无线通信数据传输，结合24GHz微波雷达存在传感技术和光感探测技术，可分析人的行为状态（有人状态和无人状态），并采集环境照度数据。人体状态及照度信号作为数据采集单元接入智能系统，可对照明、窗帘、空调、新风、背景音乐等电子设备进行智能联动控制，创造更加舒适的智能家居场景体验。

五. 规格参数

工作电压	110-240Vac，50/60Hz
待机功耗	≤1W
发射功率	5mW Max.
微波工作频率	24-24.25GHz
通讯方式	ZigBee
灵敏度设置 (备注1)	0%/10%/20%/30%/40%/50%/60%/70%/ 80%/90%/100%，通过APP设置
延时设置 (备注2)	30s /1min / 2min/ 3min /5min /10min / 20min/30min，通过APP设置
探测距离 (备注3)	移动感应距离：3-4m 微动探测距离：2.5-3.5m 呼吸探测距离：2.5-3.5m
安装高度	2.5-4m
安装方式	嵌入式安装
工作温度	0-50℃
存储温度	-25-80℃

备注：

1、探测灵敏度越高探测距离越远。如遇微波穿墙或者误触发需降低灵敏度使用。设置为0%时，微波传感器运动检测功能被屏蔽，无论是否有人移动，延时自动关闭设备。

2、为保证检测效果，单人空间延时设置1分钟以上。

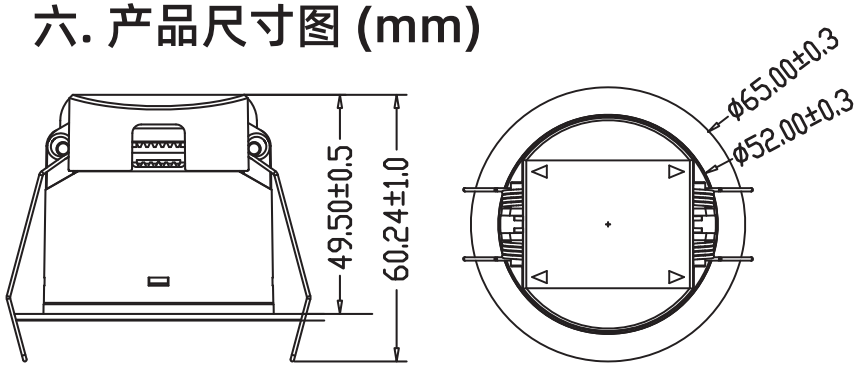
3、传感器的探测距离与安装高度、人员身高及移动速度、人员与传感器的相对位置、安装环境大小、是否有遮挡及反射物等因素相关，表中数据为传感器吸顶安装3m高，空旷地带，身高165cm人员，人员胸腹部无遮挡物、人员正对传感器，0.3m/s慢走时测得。

人体运动信号解释：

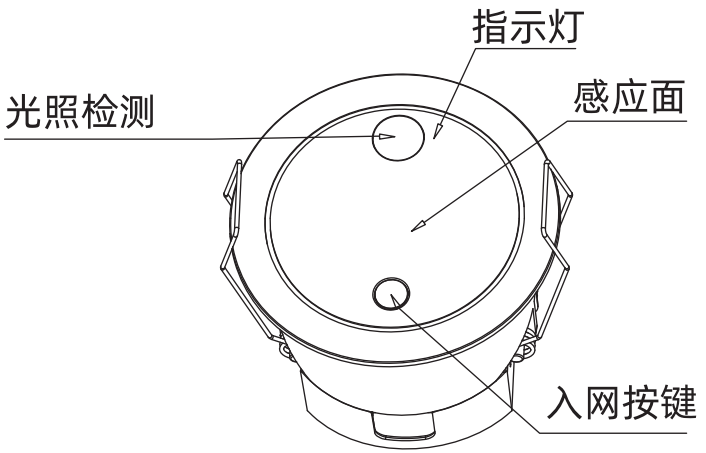


移动　　微动　　呼吸

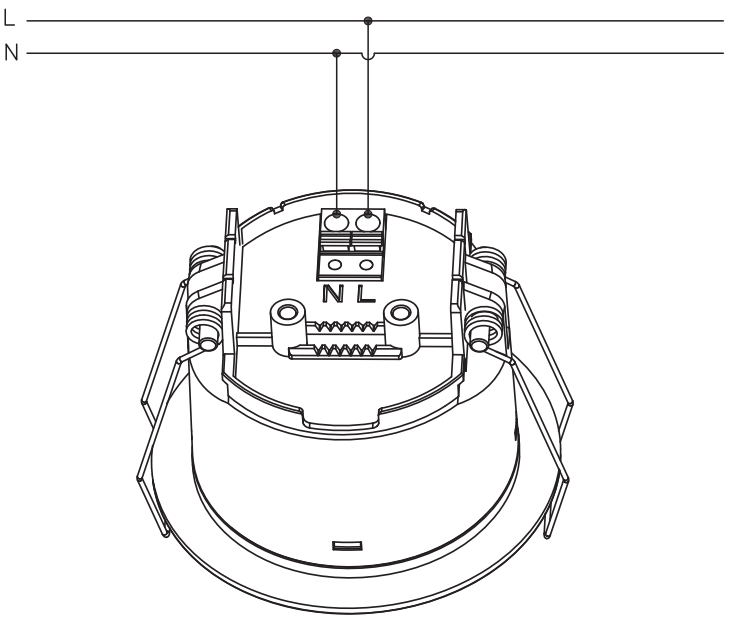
六. 产品尺寸图 (mm)



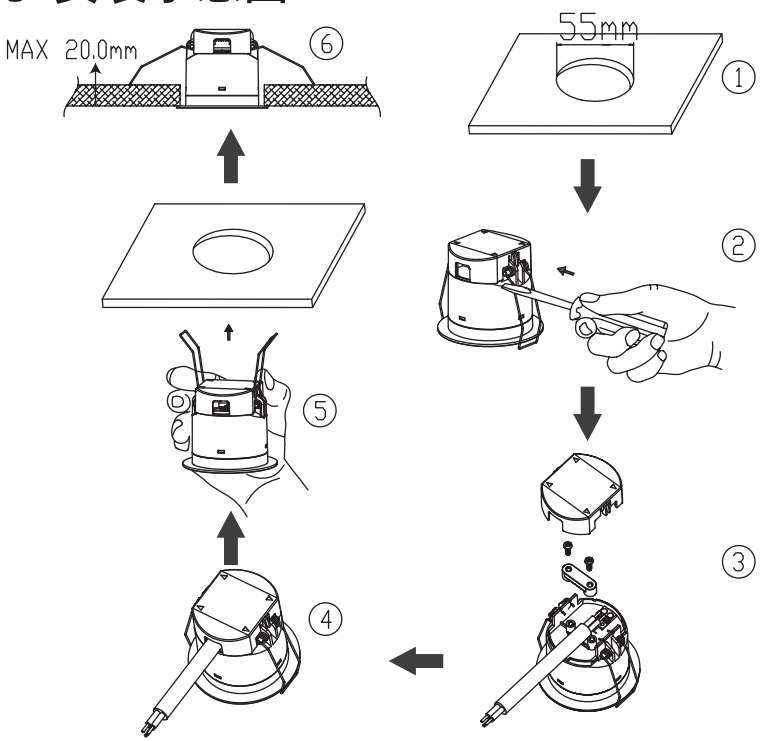
七. 产品示意图



八. 接线图



九. 安装示意图



1. 吸顶嵌装（开孔55mm）；
2. 使用一字螺丝刀拆下出线端盖；
3. 接入电源线，确保连接良好；
4. 用压线扣压住电源线并用螺丝紧固，盖上出线端盖；
5. 向后弯曲弹簧夹推进天花板预先开好的孔；
6. 确保安装后平稳可靠。

十. 使用说明

1.初始化：上电后通电指示灯慢闪20秒后关闭，在此期间传感器不与通信模块通讯，不探测外界移动信号。初始化完毕后进入正常工作状态。

2.本品需配合智慧中心和LifeSmart APP使用，手机扫描下方二维码下载APP。

3.配网说明：传感器通电初始化（指示灯慢闪20秒）后进入配网状态，配网状态下指示灯快闪，打开LifeSmart APP，选择添加新设备-传感器-人体存在感应器(ZigBee)(MSA201Z)，按照APP提示进行配网操作。

设备配网成功后，LED指示灯常亮10秒；如入网失败，LED指示灯长灭10秒。

4.APP说明 *各项参数可能不断更新，仅作参考，以实物为准。

指示灯开关　开关打开后，检测到有人，感应器指示灯会闪烁，关闭，检测到有人时，指示灯不闪烁。

探测灵敏度设置　灵敏度选择与实际应用空间成正比关系，一般0.7×0.7m空间推荐10%灵敏度，1.4x1.4m空间推荐20%灵敏度，依此类推，7x7m空间推荐100%灵敏度。

动态持续时间　设置检测到有人的动态锁定时间。
单人空间：建议设置1～3分钟
多人空间：建议设置30秒～3分钟

照度补偿系数　支持1倍～10倍整数调节。当传感器检测的环境照度与实际上报照度数值相差较大时，可通过照度补偿系数调整使传感器上报数值与实际接近。

照度差值设置　支持10Lux~100Lux范围。当实际探测环境光照变化大于设定的照度差值时，才会更新光照实时数值。

故障诊断

故障现象	原因	解决方法
传感器误触发或不关闭	微波可穿透玻璃、木板等非金属物质	1. 合理布点，尽量远离玻璃或者木板3米以上 2. 调低灵敏度使用
	传感器安装靠近无线设备	远离无线设备0.5米以上
	安装环境中有振动或者抖动信号	1. 确保空间中无其他运动信号，如：振动设备、下水管道、风扇摇头、抽风机、窗帘摆动 2. 调低灵敏度使用
传感器检测不到人	安装位置超过微波信号覆盖区域	调整传感器安装位置
	微波信号被障碍物遮挡	调整安装位置，远离障碍物
	环境照度高于照度阈值设定值	1. 检查环境中是否有其他发光物体或者灯具 2. 调高照度阈值或者取消亮暗检测功能
传感器反应慢或无法联动场景	传感器或者灯具设备离线	重新连接网关
	网速慢	使用有线网关，确保网络质量
	网关离设备之间距离较远或者隔墙	网关离设备之间距离控制在20米内，如果有隔墙建议缩短到10米以内
	网关连接的设备数量多	减少设备数量

- **技术支持微信公众号：** iLifeSmart
- **技术支持电话：** 400-886-1911
- **用户支持邮箱：** support@ilifesmart.com
- **网址：** www.ilifesmart.com

制造商: 杭州行至云起科技有限公司

地址: 杭州市萧山区平澜路518号悦盛国际中心22楼

1. Attention

- 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.
- Please read the relevant contents in this manual carefully before using the product.
- This product is designed for indoor use only.
- Ensure that the product is installed in a relatively dry and ventilated environment.
- Keep away from metal plates, concrete walls, and beams during installation to avoid blocking microwave signals.
- Install the sensor as far as possible from glass, wood, gypsum board and other materials that are easily penetrated by micro waves to avoid false triggering.
- 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.
- If a pet passes by in the detection area, it may trigger the sensor.
- The sensor should be installed far away from wireless devices such as network switches and routers, and installation interval should be at least 0.5 meters to avoid radio interference.
- 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. For specific product installation locations, please consult local purchase channels and service providers.
- The installation distance between sensors should be 2m min to avoid interference each other.

2. 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.
8) Please keep the warranty card in a safe place. Products that are purchased through unauthorized channels are not covered by our warranty.

3. Product Introduction

This product adopts ZigBee wireless communication data transmission, combined with Merrytek 24GHz microwave presence sensing technology and daylight sensing technology, which can analyze people’ s behavior status (presence status and absence status), and collect environmental illuminance output. The human body state and illuminance signals are inserted into the LifeSmart system as a data acquisition unit to intelligently control electronic equipment such as lighting products, curtains, air conditioners, ventilation systems, background music, and so on to create a more comfortable smart home scene experience.

4. Parameters

Operating Voltage	AC110-240V~ 50/60Hz
Stand-by Power	⩽1W
Transmitting Power	5mW Max.
Operating Frequency	24-24.25GHz
Communication Method	ZigBee
Detection Area (Note 1)	0%/10%/20%/30%/40%/50%/60%/70%/80%/90%/100%,Set via APP
Hold Time (Note 2)	30s/1min/2min/3min/5min/10min/20min/30min, Set via APP
Detection Range (Radius) (Note 3)	Big motion: 3-4m Minor motion: 2.5-3.5m Breathing: 2.5-3.5m
Mounting height	2.5-4m
Installation	Flush Mounted
Operating Temperature	0-50°C
Storage Temperature	-25-80°C

Note:

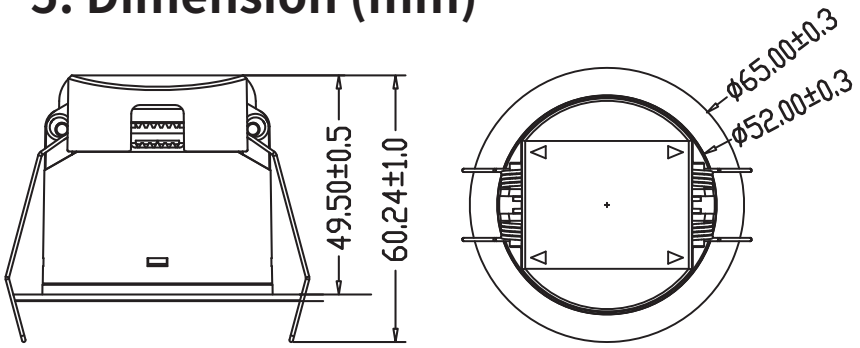
1) The higher sensitivity, the farther detection range. In case of microwave crossing the wall or false triggering, the sensitivity should be reduced. When it is set to 0%, the motion detection function of the microwave sensor is shielded, no matter whether there is someone moving, the device will be 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 “Motion Duration Delay” 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:

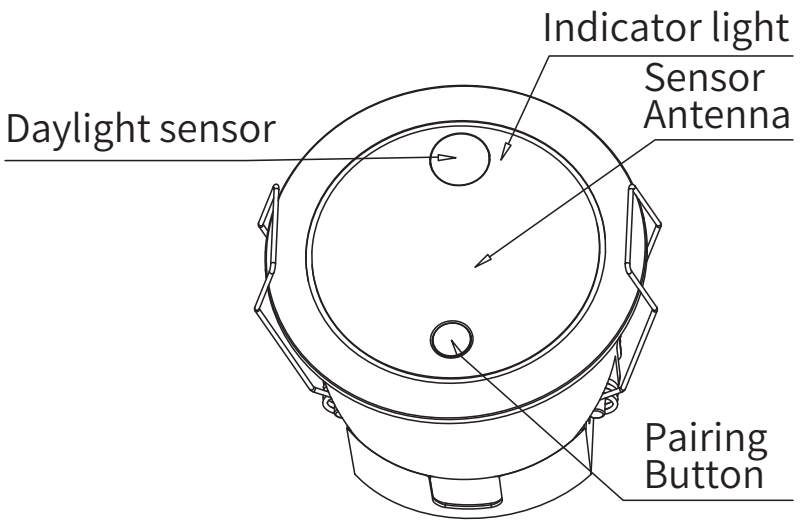


Big motion signal activates Minor motion maintains Breathing maintains

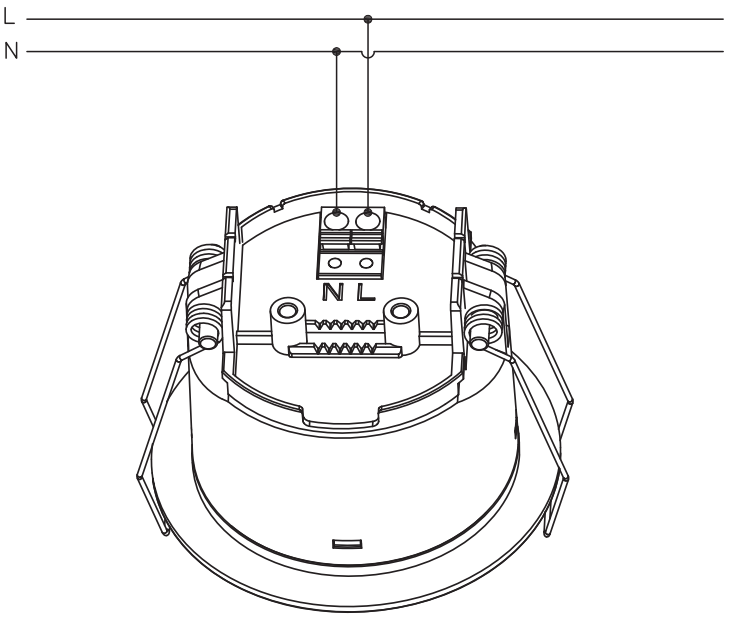
5. Dimension (mm)



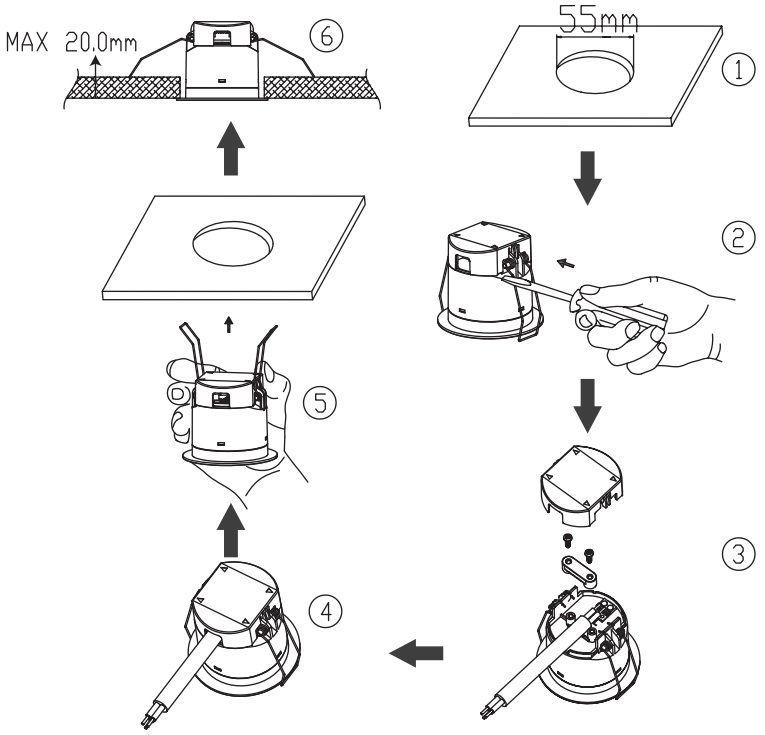
6. Structure



7. Wiring



8. Installation Instruction



1) Cut a hole of 55mm on the ceiling.
2) Open cover by small straight screw.
3) Loosing 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.

9. Instructions

1) Initialization: After power on, the indicator light flashes for 20s 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 LifeSmart Smart Station and APP. Scan the QR code below to download the APP.

3) Pairing instructions: After the sensor is powered on and initialized (the indicator light flashes slowly for 20s), it enters the pairing mode with the indicator light flashes quickly. Open the LifeSmart APP, go to Add new device>Sensor>Human Presence Sensor(ZigBee)(MSA201Z) and follow the instruction on App to pair.

After the device is successfully paired to the Smart Station, the LED indicator will stay ON for 10s and then OFF.
If it fails, the LED indicator will flash for 10s.

4) APP Instructions

Indicator	If enable, the indicator light of the sensor will blink when someone is detected, and when it is turned off, the indicator light will not blink when someone is detected.
Detection sensitivity settings	10% sensitivity is recommended for 0.7x0.7m space, 20% sensitivity is recommended for 1.4x1.4m space, and so on, 100% sensitivity is recommended for 7x7m space.
Motion duration delay	Set the motion lock time when someone is detected. Single space: It is recommended to set it for 1 to 3 minutes. Multi-Person space: 30 seconds to 3 minutes is recommended.
Illumination compensation coefficient	When the ambient illuminance detected by the sensor is quite different from the actual reported illuminance value, the value reported by the sensor can be close to the actual value by adjusting the illuminance compensation coefficient.
Illumination difference setting	The real-time light value will be updated only when the actual detected ambient light change is greater than the set illuminance difference.

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 0.5 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.
Sensor delayed response or linkage control is disable	Sensors or lightings offline.	Reconnecting
	Network speed is slow.	To use wired gateway, make sure good network.
	The gateway is far from device, or there is wall between gateway and device.	The distance between gateway and device does not exceed 20m in indoor open area, not exceed 10m if through walls.
	Connect many devices with 1 gateway.	Reduce the devices quantity connected with gateway.

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