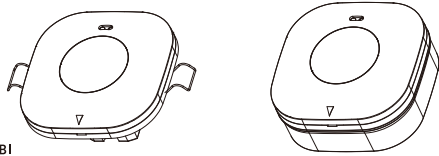


## 24GHz Large-space presence sensor (Casambi+DALI version)


Instruction  
MI250811A0

### User's Manual

Connected with CASAMBI



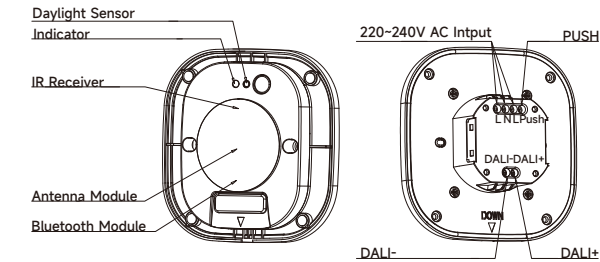
## PRODUCT DESCRIPTION

MSA227 99 B1 is a 24GHz radar sensor based on Merrytek patented orthogonal antenna. Its antenna has high gain and wide detection range and can connect to Casambi ecosystem. Combined with Merrytek's unique software algorithm and FMCW modulation, it can accurately detect micro movements brought by human in almost all indoor spaces and provide fast and accurate front-end sensing input for smart home, smart hotel, smart office and other scenes. Meanwhile it also has one channel DALI dimming terminal output and one channel push control terminal output.

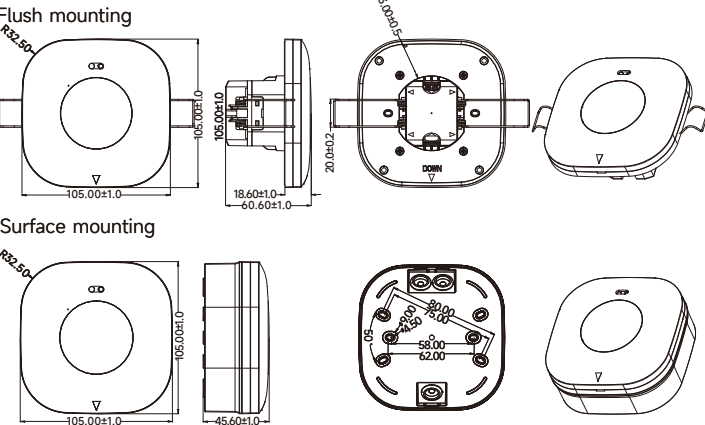
## INITIALIZATION

When powered on, sensor indicator will turn off after flashing for 10s and will not detect moving signal during this time. After 10s, you can use casambi app to adjust detection area, hold time and daylight sensor etc parameter.

## PRODUCT INTRODUCE



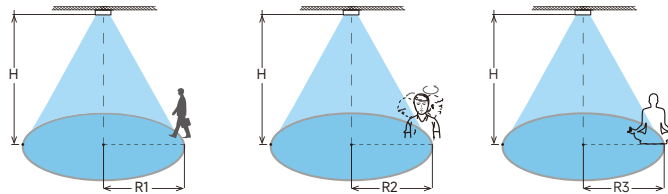
## DIMENSION(mm)



## PARAMETERS

|                                                                         |                                                                                                                                       |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Model                                                                   | MSA227 99 B1                                                                                                                          |
| Input Voltage                                                           | 220-240V AC                                                                                                                           |
| Rated Voltage                                                           | 220V AC                                                                                                                               |
| Working Current                                                         | 50mA max                                                                                                                              |
| Power Consumption                                                       | ≤1W @220/230V AC                                                                                                                      |
| Output Signal                                                           | DALI+PUSH+casambi                                                                                                                     |
| Function                                                                | 24GHz mmW radar presence sensor+daylight sensor                                                                                       |
| Detection Area                                                          | Casambi app: 0.5-4m                                                                                                                   |
| Sensor Hold Time                                                        | Casambi app: 10S/30S/1Min/3Min                                                                                                        |
| Daylight Sensor                                                         | 0-1200lux                                                                                                                             |
| Radius Detection Range(based on 100% sensitivity and tangential moving) | major/minor/micor movement (3m height installation) : 3.5±0.5m (based on 41m² open area test and might change due to different space) |
| Sensitivity                                                             | High/Medium/Low                                                                                                                       |
| Remote Control                                                          | Available                                                                                                                             |
| Mounting Height                                                         | 2-4m typical value:3m                                                                                                                 |
| 3dB Beam Angle                                                          | 100° (Horizontal)<br>100° (Vertical)                                                                                                  |
| Drill Hole                                                              | Φ55mm                                                                                                                                 |
| Working Temperature                                                     | -25°C...+50°C                                                                                                                         |
| Storage Temperature                                                     | -40°C...+80°C                                                                                                                         |
| Warranty                                                                | 5 year (available based on product quality)                                                                                           |
| Certificate                                                             | CE SAA                                                                                                                                |
| Environmental Requirements                                              | Compliant to RoHS                                                                                                                     |
| IP Rating                                                               | IP20(flush mounting) IP54(surface mounting)                                                                                           |

## DETECTION AREA



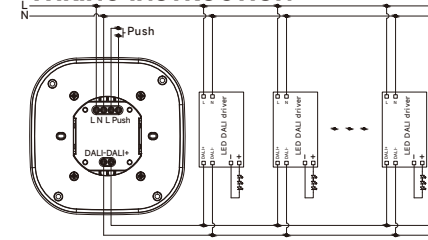
- Major motion activates: detect the human significant moving (walking) in the detection area.
- Minor motion maintains: detect the human slight moving in the detection area, such as leaning forward, leaning forwarder and back, swinging limbs, shaking head, typing, playing with mobile phones and so on.
- Micro motion maintains: detect human abdominal and thoracic expansion behaviors caused by breathing.



| Mounting height       | H=3m    |          |      |      |
|-----------------------|---------|----------|------|------|
| Detection Sensitivity | Setting | R1       | R2   | R3   |
| High sensitivity      | 4m      | 3.5-4.5m | 4.0m | 4.0m |
|                       | 3m      | 3.0-3.5m | 3.0m | 3.0m |
|                       | 2m      | 1.5-2.5m | 2.0m | 2.0m |
|                       | 1m      | 1.0-1.5m | 1.0m | 1.0m |
| Medium sensitivity    | 4m      | 3.0-4.0m | 3.5m | 3.5m |
|                       | 3m      | 2.5-3.0m | 2.5m | 2.5m |
|                       | 2m      | 1.0-2.0m | 1.5m | 1.5m |
|                       | 1m      | 0.5-1.0m | 1.0m | 1.0m |
| Low sensitivity       | 4m      | 3.0-4.0m | 2.5m | 0.0m |
|                       | 3m      | 2.0-3.0m | 1.5m | 0.0m |
|                       | 2m      | 1.0-2.0m | 1.0m | 0.0m |
|                       | 1m      | 0.0-1.0m | 0.5m | 0.0m |

Tips: Above data is based on 1.6m height people tangential moving towards sensor by 0.3m/s velocity in 81 m² open area for reference. If any variate changes, the detection range might be different.  
Factory settings: Detection Area:4m, Hold Time: 30s, Indicator:ON.

## WIRING INSTRUCTION

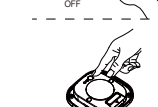
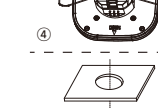
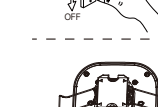
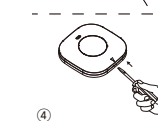
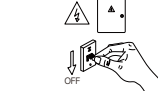


Wiring layout suggestion:

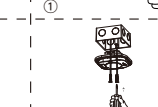
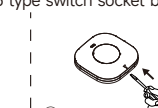
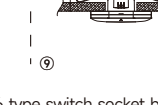
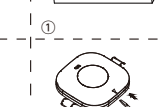
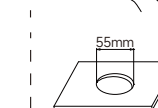
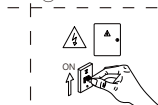
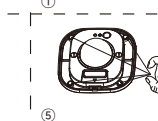
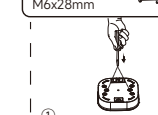
1. LN terminal shall connect to AC input, DALI+ . DALI- shall connect to dali driver, push and L connect to PUSH button, please wiring correctly
2. DALI terminal output broadcast signal and max access dali driver quantity shall not exceed 64pc
3. PUSH terminal can turn on/off by short press and dimming by long press

## INSTALLATION

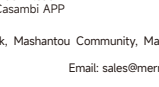
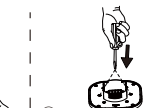
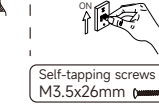
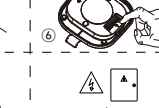
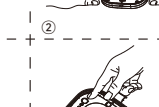
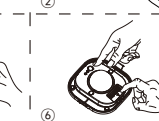
Surface mounting



Plastic wall plugs M6x28mm X2 Self-tapping screws M3.5x26mm X2 M3x8mm X4



Self-tapping screws M3.5x26mm X2 M3x8mm X4



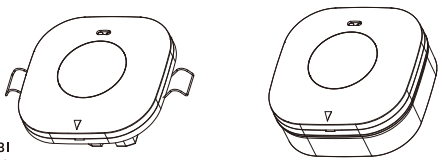
## APP INSTRUCTIONS


Casambi APP  
Download(iOS)

Scan the QR code to  
download  
Casambi APP

Function Configuration  
Download

24GHz 空间存在感应器 (casambi+DALI 版)



Connected with CASAMBI



使用说明书



使用说明书  
MI250811A0

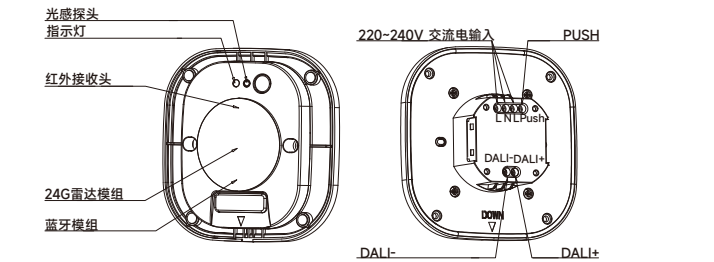
产品介绍

MSA227 99 B1 是一款基于 FMCW 原理和迈睿独创正交天线的 24GHz 雷达感应器，其天线增益高，感应范围广，结合迈睿科技独特的软件算法，它可以实现几乎所有室内空间的人体生命体征带来的细微运动的精准检测并且可以接入 casambi 生态系统，进而为当下基于人体存在的智能家居，智慧酒店，智慧办公等场景提供快速且精准的前端传感输入，同时本感应器还支持一路 DALI 调光和一路 PUSH 开关控制。

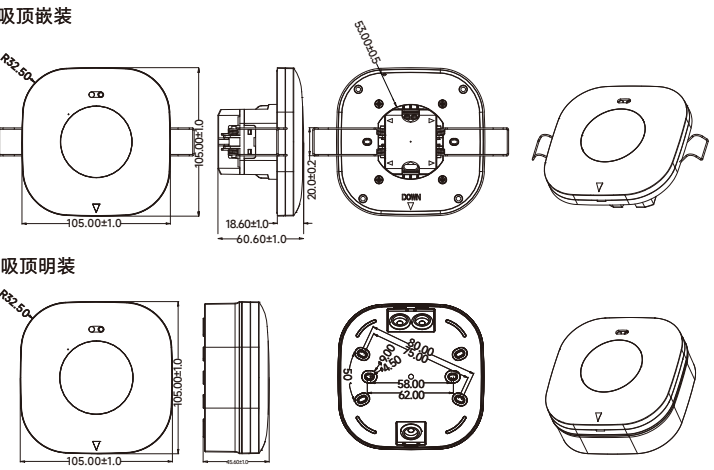
初始化

初次通电产品进入自检状态，指示灯闪烁 10 秒后关闭并发送有人指令，初始化期间不探测外界移动感应信号,指示灯延时时间、探测范围(感应距离)可以通过 casambi APP 来设置。

功能示意图



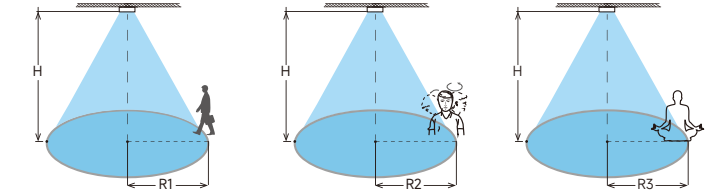
尺寸(mm)



参数

|                       |                                                              |
|-----------------------|--------------------------------------------------------------|
| 型号                    | MSA227 99 B1                                                 |
| 输入电压                  | 220-240V AC                                                  |
| 额定电压                  | 220V AC                                                      |
| 工作电流                  | 50mA max                                                     |
| 工作功耗                  | ≤1W @220/230V AC                                             |
| 输出信号                  | DALI+PUSH+casambi                                            |
| 感应方式                  | 24Gh 毫米波雷达+光感探测                                              |
| 感应范围                  | Casambi app: 0.5-4m                                          |
| 延时设置                  | Casambi app: 10S/30S/1Min/3Min<br>备注：开启存在探测功能延时时间至少设置 30S 以上 |
| 光感量程                  | 0-1200lux                                                    |
| 探测范围<br>(100%灵敏度, 半径) | 移动/微动/存在 (3m高)：3-4m                                          |
| 灵敏度                   | 高/中/低                                                        |
| 遥控功能                  | 支持                                                           |
| 安装高度                  | 2.5-4.0m 典型值: 3m                                             |
| 3dB波束角                | 100° (XZ 平面)<br>100° (YZ 平面)                                 |
| 开孔尺寸                  | Φ55mm                                                        |
| 工作环境温度                | -25°C...+50°C                                                |
| 储存温度                  | -40°C...+80°C                                                |
| 质保                    | 5年 (仅限产品本身质量问题)                                              |
| 符合认证                  | CE SAA                                                       |
| 环保要求                  | 符合欧盟 RoHS 要求                                                 |
| 防护等级                  | IP20(吸顶嵌装) IP54 (吸顶明装)                                       |

探测区域



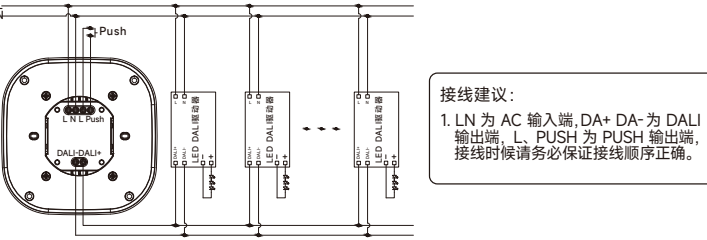
- 移动信号：检测到人体在探测区域内进行大幅移动(行走)信号。
- 微动信号：检测到人体在探测区域内微小幅度动作信号, 比如：身体前倾、后倾、肢体摆动、摇头、打字、玩手机等一些微小幅度行为动作。
- 存在信号：检测到人体在探测区域内进行大幅移动(行走)信号。



| 安装高度  | H=3m |          |      |      |
|-------|------|----------|------|------|
| 感应灵敏度 | 档位   | R1       | R2   | R3   |
| 高感    | 4m   | 3.5-4.5m | 4.0m | 4.0m |
|       | 3m   | 3.0-3.5m | 3.0m | 3.0m |
|       | 2m   | 1.5-2.5m | 2.0m | 2.0m |
|       | 1m   | 1.0-1.5m | 1.0m | 1.0m |
| 中感    | 4m   | 3.0-4.0m | 3.5m | 3.5m |
|       | 3m   | 2.5-3.0m | 2.5m | 2.5m |
|       | 2m   | 1.0-2.0m | 1.5m | 1.5m |
|       | 1m   | 0.5-1.0m | 1.0m | 1.0m |
| 低感    | 4m   | 3.0-4.0m | 2.5m | 0.0m |
|       | 3m   | 2.0-3.0m | 1.5m | 0.0m |
|       | 2m   | 1.0-2.0m | 1.0m | 0.0m |
|       | 1m   | 0.0-1.0m | 0.5m | 0.0m |

注意：以上测试数据基于 81 m²开测空间, 1.6m 高测试人员以 0.3m/s 切向走向传感器直至触发所得。在不同空间下, 不同体态的人以不同速度走向传感器的触发距离可能有所偏差。  
出厂设置：检测范围：4m, 延时设置：30S, 指示灯：打开

接线方式



接线建议：  
1. LN 为 AC 输入端, DA+ DA- 为 DALI 输出端, L, PUSH 为 PUSH 输出端, 接线时候请务必保证接线顺序正确。

安装方式

