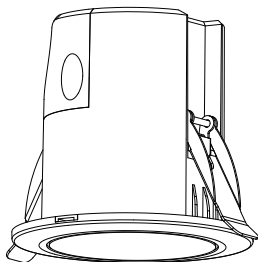


24GHz Large-space Presence Sensor(Casambi version)



User's Manual



Connected with

CASAMB



EN

Instruction
MI250417A0

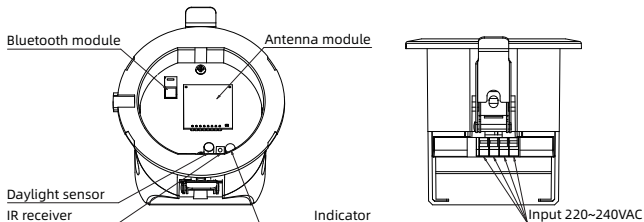
PRODUCT DESCRIPTION

MSA211 B is a 24GHz radar sensor based on Merrytek patented orthogonal antenna. Its antenna has high gain and wide detection range. 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 by casambi BLE system.

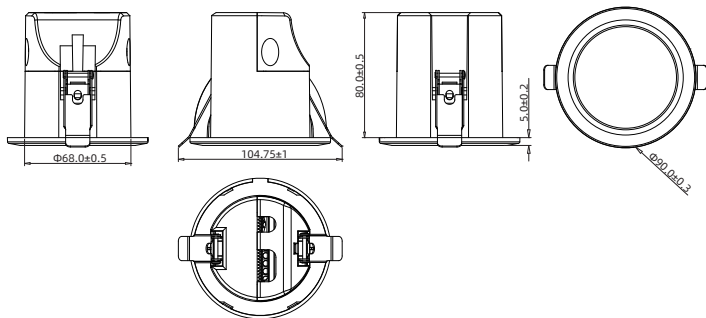
INITIALIZATION

Our sensor indicator will turn off after flashing for 10 seconds once it's powered on. And sensor does not detect moving signal during initialization. You can turn ON/OFF indicator, hold time and detection area can be controlled by Casambi APP.

PRODUCT INTRODUCE



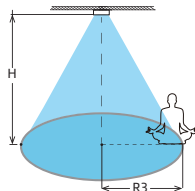
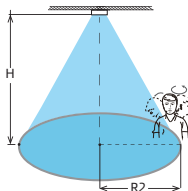
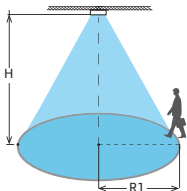
DIMENSION(mm)



PARAMETERS

Model		MSA211 B
Input voltage		220~240V AC, 50/60Hz
Working current		50mA max
Power consumption		≤1W
Detection technology		24GHz mm Wave radar + Daylight Sensor
Radar frequency		24.125GHz ±125MHz, ISM band.
Transmitting Power		5mW Max.
Sensor Parameter	Sensitivity	High sensitivity/Medium sensitivity/Low sensitivity
	Detection Area	Casambi app: 0.5-4m
	Hold Time	10s/30s/1min/3min+casambi delay time (presence detection will be enabled only when sensor hold time set >30s and sensitivity >low)
	Daylight Sensor	0-1200Lux
	Detecting Range(Medium sensitivity, radius)	Major/Minor/Micro Motion (3m installation) : 0.5-4m
Mounting height		2.5-4m, typical value: 3m
Drill hole		Φ75mm
Working temperature		0°C ~ +50°C
Storage temperature		-40°C ~+80°C
IP rating		IP20
Warranty		5 years(only for product quality problem under indoor application)

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.



Major motion
activates



Minor motion
maintains



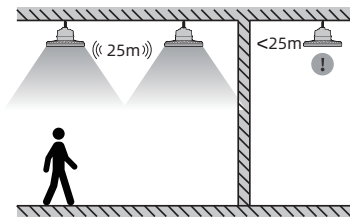
Micro motion
maintains

Mounting height	H=3m			
Detection Sensitivity	Setting	R1	R2	R3
High sensitivity	4m	3.5-4.5m	3.5-4.5m	3.5-4m
	3.5m	3-4m	3-4m	3-3m
	3m	2.5-3.5m	2.5-3.5m	2.5-3m
	2.5m	2-3m	2-3m	2-2.5m
	2m	1.5-2.5m	1.5-2.5m	1.5-2.0m
	1.5m	0.5-2m	0.5-2m	0.5-2m
	1m	0.5-1m	0.5-1m	0.5-1m
	0.5m	0-0.5m	0m	0m
Medium sensitivity	4m	3-4m	3-4m	2-2.5m
	3.5m	3-3.5m	3-3.5m	2-2.5m
	3m	2.5-3m	2.5-3m	1.5-2m
	2.5m	2-2.5m	2-2.5m	1-1.5m
	2m	1.5-2m	1.5-2m	0.5-1m
	1.5m	1-1.5m	1-1.5m	0-0.5m
	1m	0.5-1m	0.5-1m	0m
	0.5m	0-0.5m	0-0.5m	0m
Low sensitivity	4m	2.5-3m	1.5-2m	No micro movement detection
	3.5m	3-3.5m	1-2m	
	3m	2.5-3m	1-1.5m	
	2.5m	2-2.5m	0.5-1m	
	2m	1.5-2m	0.5-1m	
	1.5m	1-1.5m	0-0.5m	
	1m	0.5-1m	0-0.5m	
	0.5m	0m	0m	

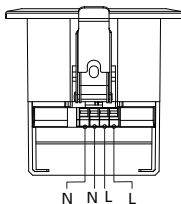
Note: 1. 0m means the motion/minor/micro motion only can be detected right below the sensor.

2. When mounting height is 4m, detection area in radius is short about 0.5m than the value in table 1.
3. When set at Low sensitivity mode, the sensor can not detect micro motion signal.
4. Other motion signal caused by non-human might mistrigger our sensor, in such case, we suggest adjust suitable detection range、sensitivity and hold time for ideal presence application.

TRANSMISSION DISTANCE



WIRING INSTRUCTION



CAUTION

1. The installation work, maintaining work and electrical wiring etc., and these must be done by qualified person(s), or the equivalent .
2. Please refer to wire diagram before wiring, cut off power before do any setting or wiring.
3. LN is AC input terminal, please wire correctly.



INSTALLATION

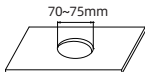
Flush Mounting

Self-tapping screws

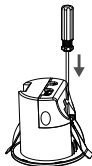
M3x10mm  X2



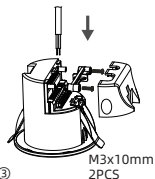
①



②



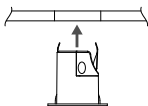
③



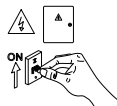
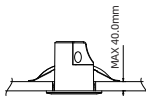
④



⑤



⑥



APP USAGE INSTRUCTIONS



Casambi APP
Download

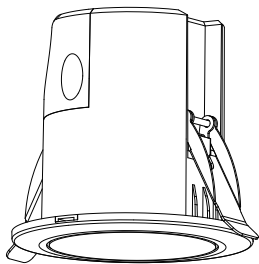


Function configuration
download

Casambi APP manual download

<https://support.casambi.com/support/solutions/12000001568>

24GHz 空间存在传感器(Casambi版本)



使用说明书

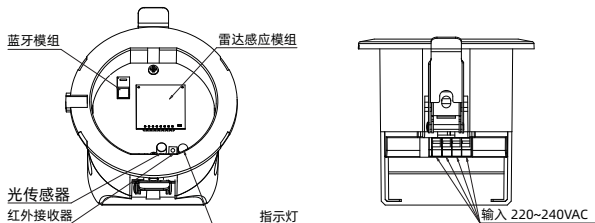
产品介绍

MSA211 B 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。

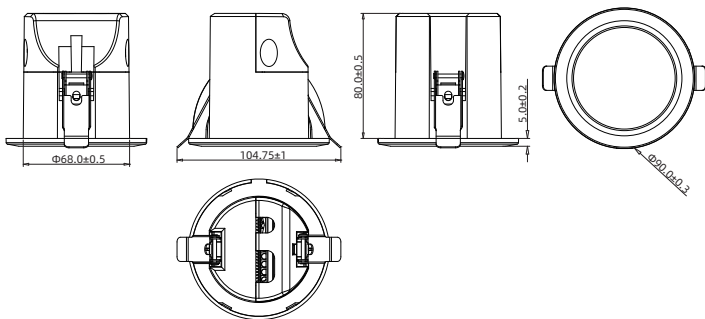
初始化

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，指示灯可以通过 casambi APP 关闭和打开，同时延时时间、探测范围（感应距离）可以通过 casambi APP 来设置。

功能示意图



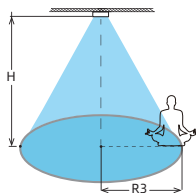
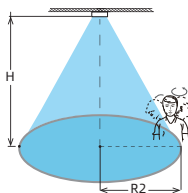
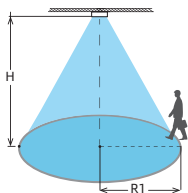
尺寸(mm)



参数

型号		MSA211 B
输入电压		220~240V AC, 50/60Hz
工作电流		50mA max
工作功耗		≤1W
感应方式		24Gh毫米波雷达+光感探测
工作频率		24.125GHz ±125MHz, ISM band.
发射功率		5mW Max.
感应参数	灵敏度	高感/中感/低感
	感应范围(Detection Area)	Casambi app: 0.5-4m
	延时设置 (Hold Time)	Casambi app: 10S/30S/1Min/3Min+casambi (只有当感应器延时设置大于 30s 并且灵敏度大于低感才有存在探测功能)
	光感上报范围 (Daylight Sensor)	0-1200Lux
	探测范围(中感灵敏度, 半径)	移动/微动/存在 (3m高) : 3-4m, 见附表
安装高度		2.5-4.0m, 典型值: 3m
内嵌安装开孔尺寸		Φ75mm
工作环境温度		0°C ~ +50°C
储存温度		-40°C ~ +80°C
防护等级		IP20
质保		5 年@Ta (室内使用)

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：检测到人体呼吸生命体征引起(腹腔、胸腔扩张行为动作)。



移动信号



微动信号

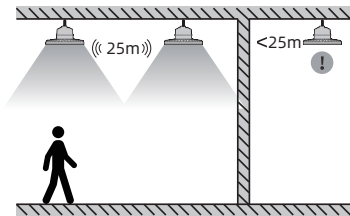


存在信号

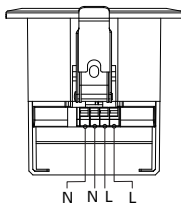
安装高度	H=3m			
检测灵敏度	距离档位	R1	R2	R3
高感	4m	3.5-4.5m	3.5-4.5m	3.5-4m
	3.5m	3-4m	3-4m	3-3m
	3m	2.5-3.5m	2.5-3.5m	2.5-3m
	2.5m	2-3m	2-3m	2-2.5m
	2m	1.5-2.5m	1.5-2.5m	1.5-2.0m
	1.5m	0.5-2m	0.5-2m	0.5-2m
	1m	0.5-1m	0.5-1m	0.5-1m
	0.5m	0-0.5m	0m	0m
中感	4m	3-4m	3-4m	2-2.5m
	3.5m	3-3.5m	3-3.5m	2-2.5m
	3m	2.5-3m	2.5-3m	1.5-2m
	2.5m	2-2.5m	2-2.5m	1-1.5m
	2m	1.5-2m	1.5-2m	0.5-1m
	1.5m	1-1.5m	1-1.5m	0-0.5m
	1m	0.5-1m	0.5-1m	0m
	0.5m	0-0.5m	0-0.5m	0m
低感	4m	2.5-3m	1.5-2m	无存在探测功能
	3.5m	3-3.5m	1-2m	
	3m	2.5-3m	1-1.5m	
	2.5m	2-2.5m	0.5-1m	
	2m	1.5-2m	0.5-1m	
	1.5m	1-1.5m	0-0.5m	
	1m	0.5-1m	0-0.5m	
	0.5m	0m	0m	

- 注意：1. 0m 意味着只有在传感器正下方才能检测到移动信号 / 微动信号 / 存在信号。
2. 当安装高度为 4 米时, 检测半径内的检测区域比表 1 中的值短约 0.5 米。
3. 当设置为低灵敏度模式时, 传感器无法检测到存在信号。
4. 环境中非生物运动信号可能对传感器造成干扰, 需调整合适感应距离, 感应灵敏度和感应器延长时间以获取最佳存在体验。

传输距离



接线方式



注意

1. 本产品的安装维保等电气操作需专业电工或具备对应电气操作技能人员操作。
2. 操作前请切断电源并仔细阅读接线图。
3. LN 为 AC 输入端，接线时候请务必保证接线顺序正确。



安装方式

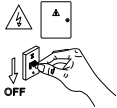
吸顶嵌装

自攻螺丝

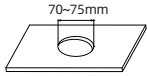
M3x10mm



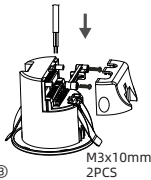
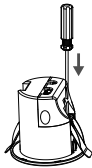
X2



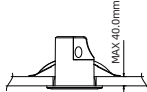
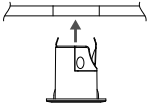
OFF



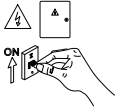
70~75mm



M3x10mm
2PCS



MAX 40.0mm



ON

APP 使用说明



Casambi APP
下载



扫描下载
功能配置说明

Casambi APP 使用说明下载

<https://support.casambi.com/support/solutions/12000001568>