Specification

Product Name: **24GHz Large-space presence sensor（Casambi version）**

Product Model: **MSA211 B**

Product Version: **V1.0**

Versions	Release/ change Date	Reason for change	Publishing
V1.0	2023.10.10		Jacky

【Product Description】

MSA211 B is a 24GHz radar sensor based on Merrtek patented orthogonal half-wave bending antenna.   Its antenna has high gain and wide detection range and is combined with Merrytek's unique software algorithm. It can accurately detect minor 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.

【Product Feature】

- Exclusive Merrytek Lifebeing Presence Detection
- Accurate Presence/Absence Output
- Daylight Sensor Available
- Casambi APP Control Available
- 24Ghz ISM Band Millimeter Wave Radar
- Presence detection diameter: 5-7m Max
- Minor Motion detection diameter: 6-8m Max
- Motion detection diameter: 6-8m Max
- Presence, minor motion and motion detection range are highly coincide
- Round radiation. Effectively managing a whole space by a single sensor
- Absence switch to Presence within 0.5S
- Absence switch to Presence no less than 1MIN
- Flush mounting installation available
- Sensor parameter adjustable by Casambi APP
- Sensing function based on millimeter wave radar technology
- Low RF power output. No harm to human health
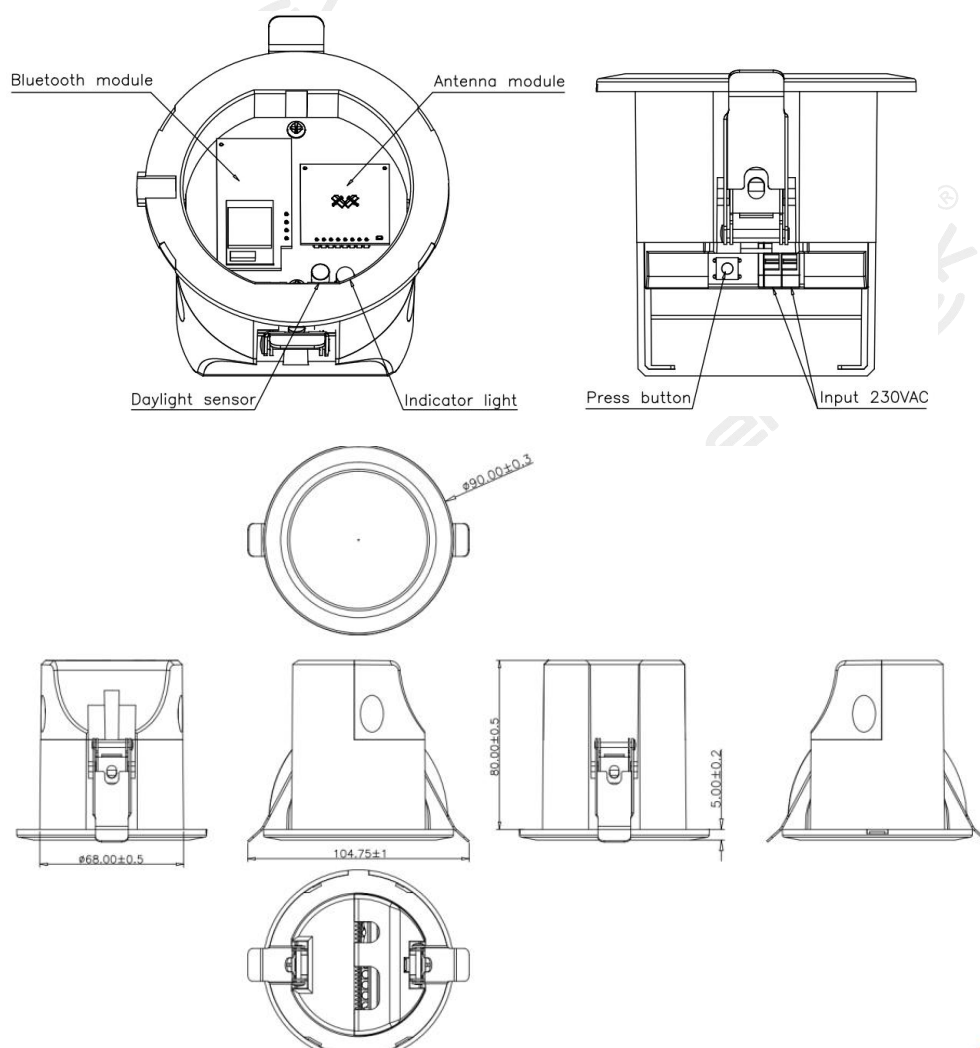- Not affected by temperature, humidity, noise, airflow, dust, light and other environments

【Product dimension】

- Dimension: φ90x80mm
- Terminal: 4pin terminal with 0.75mm²-1.5mm² wire diameter recommend

【Parameter】

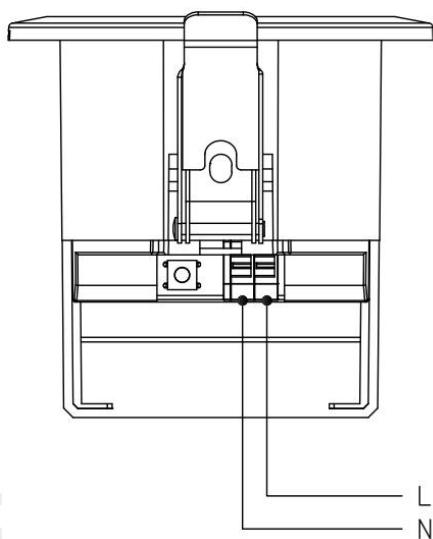|		
Input/Output	Input voltage	100-240Vac 50Hz/60Hz
	Rated voltage	220V AC
	Working Current	50mA max
	Working Power	≤1W 220V AC
Sensor Parameter	Radar frequency	24GHz-24.25GHz ISM band
	Transmitting Power	5mW Max.
	Detection Area	APP adjust：10%-100%
	Hold Time	1min + APP hold time
	Daylight	0-1200Lux
	Detecting Range (100% detection area, radius)	Presence/Minor motion/Motion（3m installation）:2.5-4m
	Remote control	Available
	Mounting Height	2.5-4.0m
	3db Beam Angle	100° (XZ field)
		100° (YZ field)
Application Environment	Drill hole	Φ75mm
	Working Temperature	0℃...+50℃
	Storage Temperature	-25℃~+80℃
Certificate Standard	Certificate	FCC/RED
	Environmental Requirement	Compliant to RoHS
	IP Rating	IP20
Note: "N/A" means not available.		

【Dimension Diagram】

Bluetooth module

Antenna module

Daylight sensor

Indicator light

Press button

Input 230VAC

∅90.00±0.3

∅68.00±0.5

104.75±1

80.00±0.5

5.00±0.2

【 Wiring Diagram&Suggestion】

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Wiring suggestion：

1. If you're going to use our sensor to trigger electricity switch-on-off,you're suggestion to layout our sensor in an isolated UPS circuit

【Product Initialization】

Our sensor indicator will turns off after flashing for 20 seconds once it's powered on.And sensor does not detect moving signal during initialization. You can turning ON/OFF indicator, hold time and detection area can be controlled by Casambi APP.
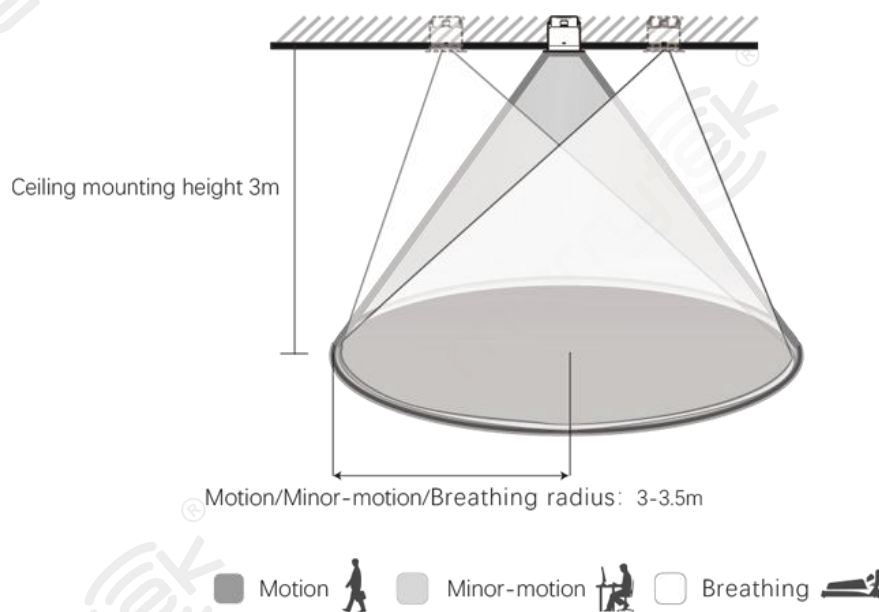
【Factory Setting】

Detection Area:100%　　　　　　Hold Time:1min　　　　　Indicator light：open

【Detection Radiation】

MSA211 B is highly suggested flush mounting and its detection radiation is as below:

Ceiling mounting height 3m

Motion/Minor-motion/Breathing radius: 3-3.5m

■ Motion 🚶　■ Minor-motion 🧎　◻ Breathing 🛏

【Detection Signal】

The product detects human moving, minor moving, and presence signals, and realizes the detection of human-existing/no-human in non-sleep state. The following is a description of the moving, minor moving and presence signals:

● **Moving signal:** detect the human significant moving (walking) in the detection area.

● **Minor moving signal:** 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.

● **Presence signal:** detect human abdominal and thoracic expansion behaviors caused by breathing, but not detect moving signal and minor moving signal.

【Disclaimer】

Due to the complexity of product technology and differences in application environment, it is difficult to guarantee a completely accurate or complete description, so this specification is only for user reference.

We will reserve the right to make changes to the product specifications without notifying the user, and do not make any commitments and guarantees in the legal sense.

At the same time, our company encourages users to supplement or modify the contents of our specifications after using our products.