

Specification

Product series: Low-mounting PIR motion sensor (Casambi+ON/OFF version)

Product model: MSA246S IR B1(order sku: 313791002)

Product version: V1.0

Version	Release Date	Record	Publishing
V1.0	2026.4.25	Initial version	Jacky

【Product description】

MSA246S IR B1 is a low-mounting PIR motion sensor with daylight detection function and casambi wireless communication. Combined with the unique software algorithm of Merrytek, it can accurately detect human movements in almost all scenario to trigger smart scene application.

【Product Feature】

- PIR motion detection
- Connect to casambi BLE ecosystem
- Accurate motion detection with one channel ON/OFF output and casambi communication
- Daylight sensor detection available
- Detection area,hold time can be set by casambi app
- Max detection range: 8-10m in diameter
- 2.5-6m mounting height
- 16A relay applied for ON/OFF terminal
- Max loading capacity :1200w resistive loading and 600w inductive loading
- Max 2kV surge capacity
- Office,passageway etc motion detection highly recommended
- Flush mounting and surface mounting(need extra surface mounting kit) available
- 5 years warranty

CASAMBI



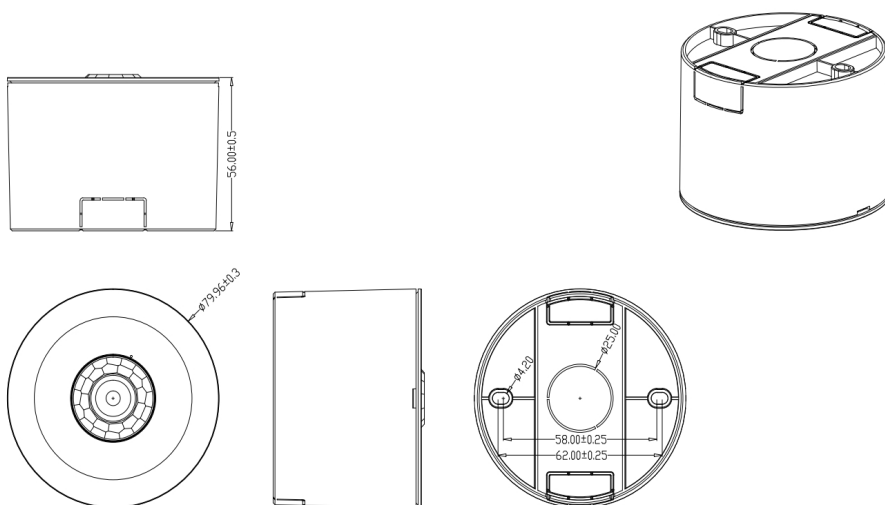
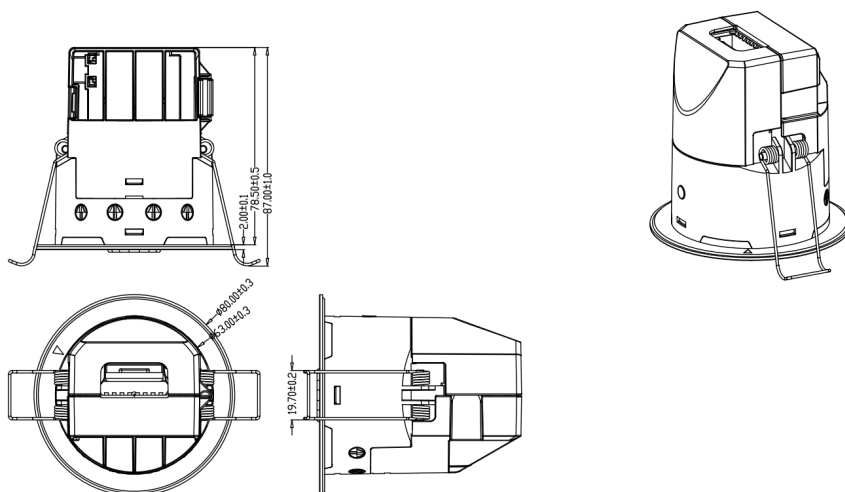
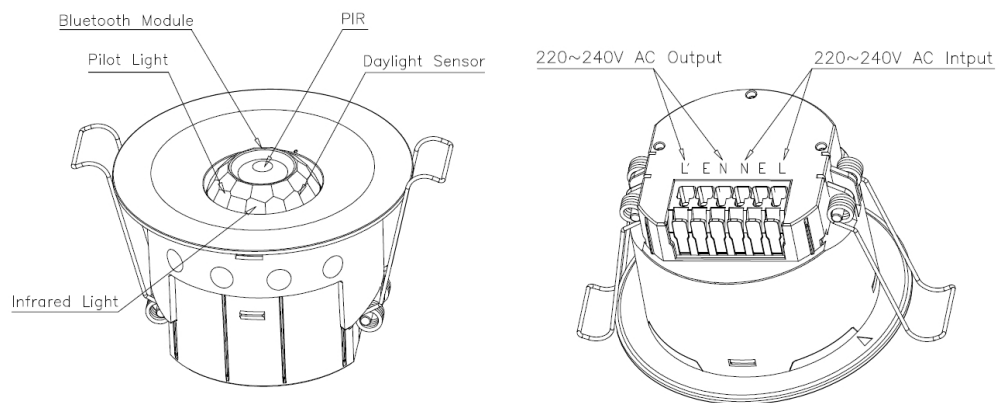
【Dimension】

- Product size: $\phi 63$ (internal diameter)x80.5mm/ $\phi 80$ (external diameter)x80.5mm
- Connection interface: 6-pin terminal

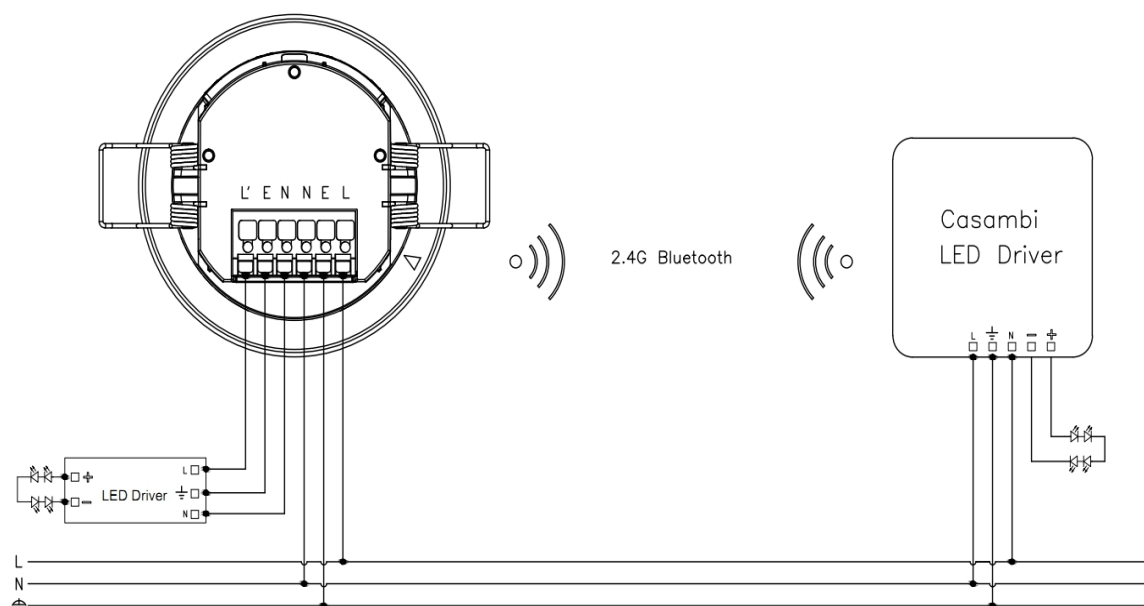
【Parameter】

Input/Output	Input voltage	220-240V AC
	Rated voltage	230V AC
	Working current	20mA max
	Power consumption	≤0.5W @230V AC
	Output signal	1 channel ON/OFF(17A relay)+casambi BLE
	Max surge voltage	2KV(L/N,EN61000-4-5)
	Max surge current	30A (50% Ipeak, twidth =500us, 230Vac full load, cold start)
	Max loading	1200w resistive loading and 600w inductive loading
Sensor parameter	Function	PIR motion detection+ daylight sensor
	Detection Area	Casambi app setting: 100%/75%/50%/25%
	Hold Time	Sensor hold time 2s+ Casambi Linger time
	Daylight Sensor value	0-1200lux
	Radius detection range(based on 100% sensitivity)	3m height installation: tangential movement at 1m/s speed: 4-5m @25°C radial movement at 1m/s speed: 2-3m @25°C 6m height installation: tangential movement at 1m/s speed: 4-5m @25°C radial movement at 1m/s speed: 2-4m @25°Cs
	APP control	Available(casambi app)
Application environment	Mounting height	2.5-6m, typical value: 3m
	Drill hole	Φ65mm
	Working temperature	-25°C...+50°C(detection range might differ based on different temperature)
	Storage temperature	-40°C~+80°C
Certificate Standard	Warranty	5 year (available based on product quality under indoor application)
	Certificate	Compliant to CE
	Environmental requirements	Compliant to RoHS
Certificate Standard	IP rating	IP20(flush mounting)
"N/A" means not available		

【Dimension and Function diagram】

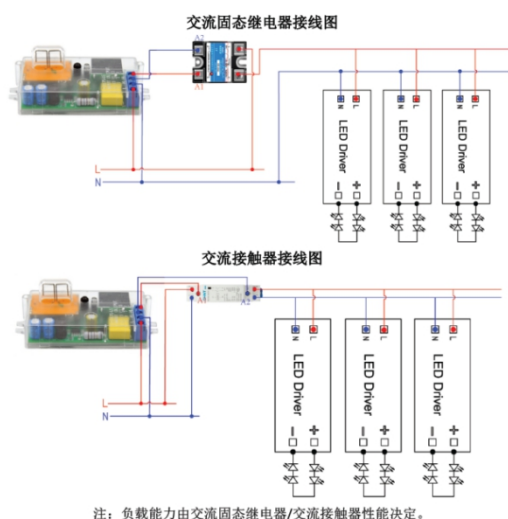


【Wiring instruction】



Wiring layout suggestion:

1. LN terminal stands for AC input, L'N' stands for AC output, please wiring correctly
2. One sensor's max loading capacity is 1200w resistive loading and 600w inductive loading for one single load. if you want connect more load in one loop, we recommend to add an AC contactor in our output LN terminal to avoid momentary surge overload.
3. Casambi bluetooth communication range is 40m in open area, if there's wall or other obstacle, communication range might shorten.



注：负载能力由交流固态继电器/交流接触器性能决定。

【Initialization】

When powered on, sensor indicator will turn off after flashing for 35s and will not detect moving signal during this time.

After 35S, you can use our casambi app to adjust detection area, hold time and daylight sensor etc parameter.

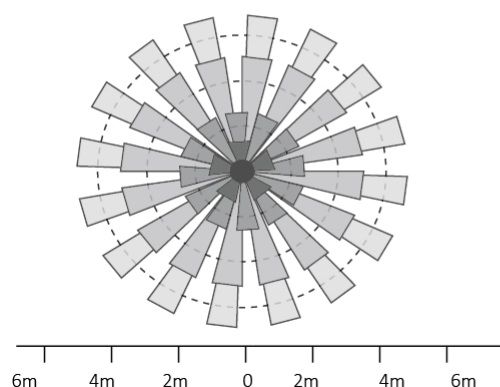
【Factory setting】

Detection Area:100%, Sensor Hold Time: 2s, Indicator:ON

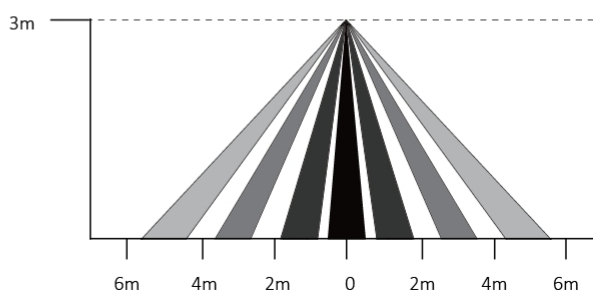
【Detection radiation】

MSA246S IR B1 is highly recommended ceiling flush mounting and its detection radiation based on 3m height is as below shows:

Top View



Side View



【Detection Signal】

The product detects human moving signals and below is a description of the moving signals:

- **Major motion signal:** detect the human significant moving (walking) in the detection area.



Major motion



Minor motion



Micro motion

【Casambi APP setting】



【Application tips】

1. Our sensor shall be installed by professional electrician under power-off state
2. Our sensor's typical installation is 3m high for indoor use only. And it's strongly suggested installed far away from hot or temperature-change-fast area to avoid false trigger
3. To ensure normal detection, there shall be no big object within our sensor's detection area because our sensor can't detect by penetrating object
4. There shall also no strong-reflect object, wifi router, microwave oven etc before our sensor to avoid false trigger
5. Our sensor's detection area function is based on 25°C environment temperature, when environment temperature is higher/lower than this temperature, our sensor will be dull/sensitive, such the detection area will be shorter/longer
6. Our sensor's detection area function is based on tangential movement, and become short if you test by radial movement due to PIR character

【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.