# Specification

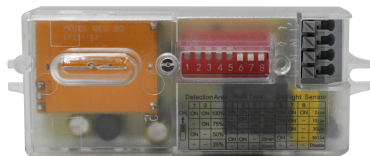**Product Name:**     **AC ON/OFF sensor**

**Model No.:**   **MC098S**

| Version | Date | Reasons | Publishing |
|---------|------|---------|------------|
| V1.0 | 2023.12.16 | | James. Guo |
| V1.1 | 2024.05.21 | Add product pictures | James. Guo |
| | | | |

# 1. Features

- Ultra-slim design for Tri-proof LED light
- Patented antenna design makes reliable detecting, avoid missing triggered when sensor built-in backside of metal LED plate.
- Adjustable detecting sensitivity via DIP switches, suitable to variety of installation sites.
- Support 6m Max. Mounting height .
- 5 years warranty

# 2. Parameter

| | | |
|---|---|---|
| **Input** | Operating Voltage Rage | 198-264V AC, 50Hz/60Hz |
| | Rated Voltage | 220-240V AC, 50Hz/60Hz |
| | Stand-by Power | ≤0.5W |
| | Surge Test | L--N: 1kV |
| **Output** | Working Mode | ON/OFF function |
| | Type of Load | Inductive or Resistive |
| | Load Capacity | 200W(Inductive) ; 400W(Resistive) |
| | Max. Surge Capacity | 20A (50% Ipeak, twidth 200us @230Vac full load, cold start) |
| **Sensor Parameters** | Operating Frequency | 5.8 GHz ±75 MHz，ISM Band. |
| | Transmitting power | 0.5mW Max. |
| | Hold time | 5s//30s/90s/5min/20min/30min |
| | Detection Sensitivity | 100%/75%/50%/25% |
| | Daylight Sensor | 2Lux/10Lux/30Lux/50Lux/Disable |
| | Detecting Radius | 3-10m (mounting height 3-4m)<br>2-8m(mounting height 6m) |
| | Mounting Height | 6m Max. |
| | Detecting Angle | 150° (Wall mounted), 360° (Ceiling mounted) |
| **Operating Environment** | Operating Temperature | -25℃…+60℃ |
| | Storage Temperature | -40℃…+80℃（Humidity: 10%-95% Non-condensing) |
| **Certificate Standards** | Safety standards | EN61058-1 |
| | EMC standards | EN300440; EN301489-1; EN55015; EN61547; EN61000-3-2; EN61000-3-3; EN62479 |
| | Environmental Requirement | Compliant to RoHS |

| | Certificate | CE, RED |
|---|---|---|
| **Others** | Wiring | Press-in Type Terminals, wire diameter：0.75-1.5mm$^2$ |
| | IP Rating | IP20 |
| | Protection Class | Class II |
| | Installation | Built-in |
| | Dimension | 77.5*34.5*22mm |
| | Package | Bubble bag+Clapboard + Carton（K=A） |
| | Net Weight | 58±2g |
| | Lifetime | 5 years warranty @Ta 230V full load |

Note

1. "N/A"means not available.

2. Detection area is effected on volume of motion object and motion speed. The detection area is tested by a 170cm height person and walking speed is 0.3m/s.

# 3.Function

### On/OFF Function
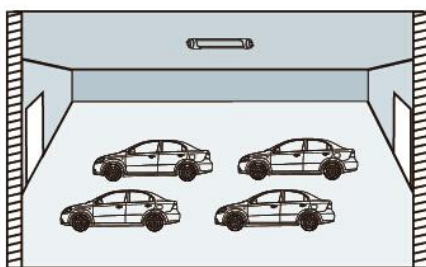


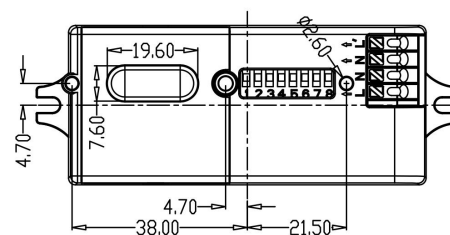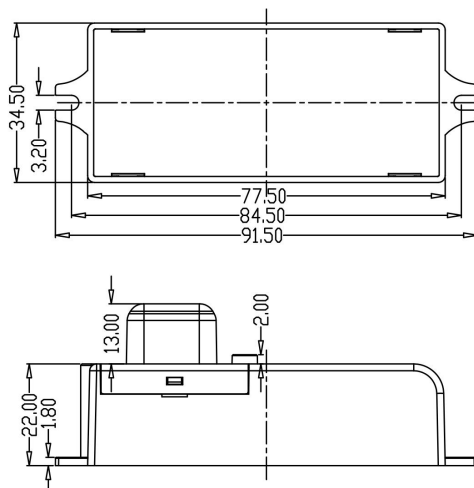① With sufficient ambient light, the light will not be switched on even if with motion signal.
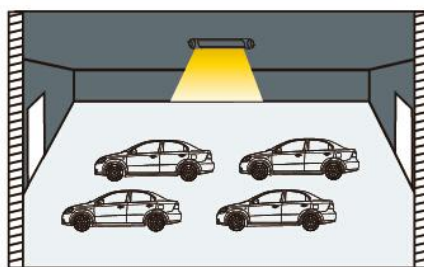
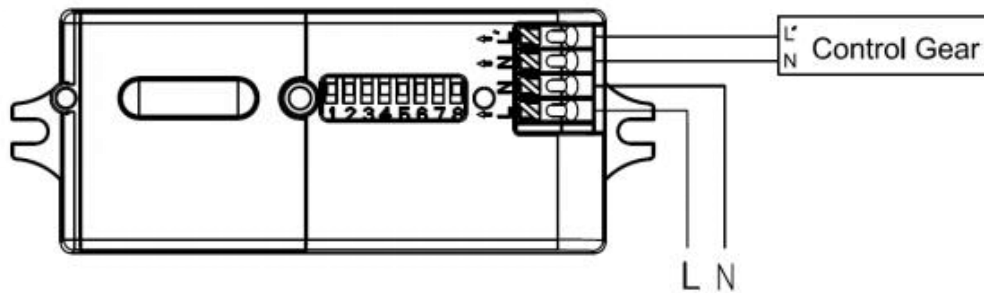② With insufficient ambient light, the sensor switches on the light when motion is detected.

③ After elapse of hold time, the sensor switches off the light when no motion is detected.
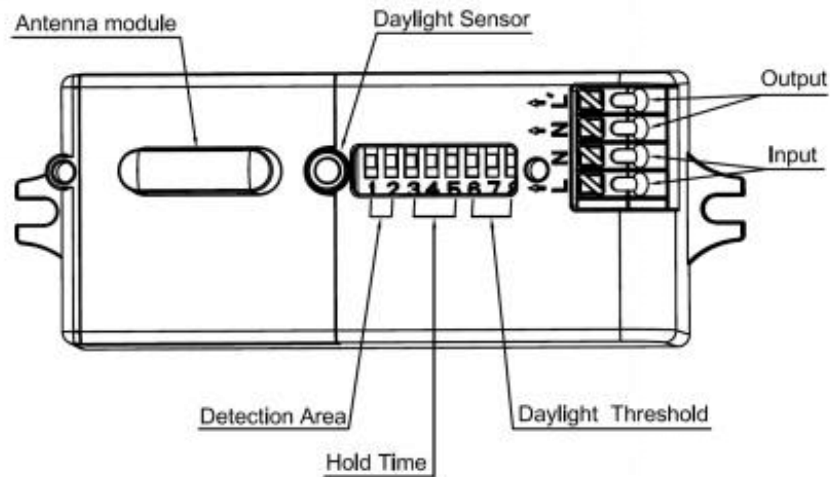
# 4. Dimension (mm)

## 5. Wiring



*The sensor is designed for connect one load only. Connect more than one loads may damage the sensor.
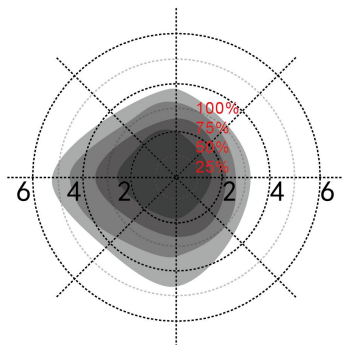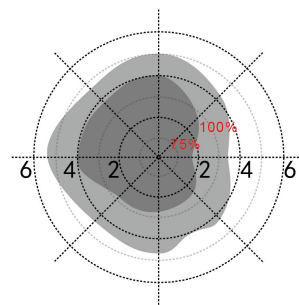
## 6. Structure



## 7. Radiation Pattern

1) Ceiling mounting

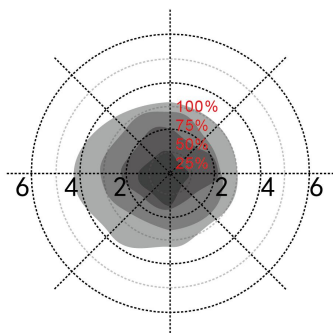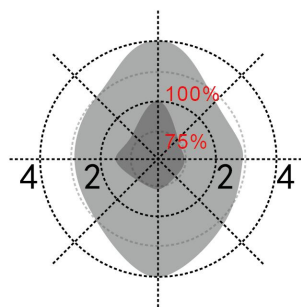Ceiling mounted height: 3m
Sensitivity: 100%/75%/50%/25%

Ceiling mounted height: 6m(*)
Sensitivity:100%/75%



Normal moving (Speed: 1m/s)

Normal moving (Speed: 1m/s)

Slow moving (Speed: 0.3m/s)



Slow moving (Speed: 0.3m/s)

*Only 100%/75%detection sensitivity is workable when installed at 6m mounting height. 25%/50% sensitivity is not able to detect motion signal.

2) Wall mounting

Horizon mounted height: 2m
Sensitivity: 100%
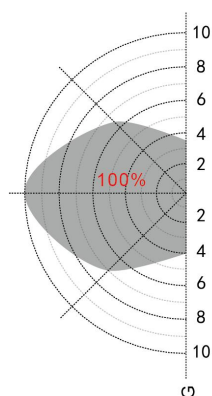


Normal moving (Speed: 1m/s)
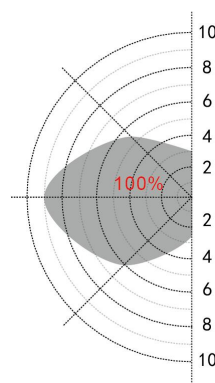


Slow moving (Speed: 0.3m/s)

# 8. DIP Switch Setting

Detection Area (Sensitivity)

|  | 1 | 2 |  |
|---|---|---|---|
| I | ON | ON | 100% |
| II | - | ON | 75% |
| III | ON | - | 50% |
| IV | - | - | 25% |

Hold Time

|   | 3 | 4 | 5 | |
|---|---|---|---|---|
| I | ON | ON | ON | 5S |
| II | - | ON | ON | 30S |
| III | ON | - | ON | 90S |
| IV | - | - | ON | 5min |
| V | ON | ON | - | 20min |
| VI | - | - | - | 30min |

Daylight Sensor

|   | 6 | 7 | 8 | |
|---|---|---|---|---|
| I | ON | ON | ON | 2Lux |
| II | ON | ON | - | 10Lux |
| III | - | ON | - | 30Lux |
| IV | ON | - | - | 50Lux |
| V | - | - | - | Disable* |

*Disable" means the daylight sensor not work. it will turn on light once motion is detected regardless of ambient light .

# 9. Initialization

After power on, the sensor automatically turns on light at 100% brightness. After 10sec, it turns off the light. During

the initialization, the sensor is not able to detect movement.

# 10. Factory Setting

Detection area: 100%, Hold Time: 5S, Daylight Sensor: Disable

# 11. Application Notice

● The sensor should be installed by a professional electrician. Please turn off the power before installing, wiring, changing the setting of the DIP switch.

● Sensitivity area is related to moving speed of objects, size of moving objects, mounting height, mounting angle, working environment, reflecting materials and etc.. Given detecting area is typical value that was measured by 165cm/65kg testers in an indoor open environment.

● The detection area of the microwave sensor when installed on the wall will be greatly increased compared to when installed on the ceiling. If adopts wall ceiling, please reduce the sensitivity or contact our company to confirm the usage settings. The daylight thresholds are measured on a sunny day without shadow and in an ambient light diffuse reflection status. Different environment and climate cause different brightness values that daylight sensor measures.

● Sensor parameters may need to be reconfigured in different installation environments, please refer to the following instructions or contact the manufacturer.

● Sensor is for indoor use only. The waterproof effect for outdoor or half-outdoor use will be affected. Wind, rain, and moving objects may cause false triggering.

● The installation height of the sensor product cannot exceed 6 meters, and the optimal height is 3 meters. The distance between the two sensors should be greater than 3m.

● When the sensor is installed in a metal lamp, on a metal reflective surface, or in a small closed environment, the microwave will be reflected multiple times and cause false triggering. Please reduce the sensitivity of the sensor or contact the manufacturer for technical support.

● Please make sure that there are no moving signals such as fans, DC motors, sewer pipes, air outlets, etc. around the sensor, otherwise the sensor may cause false triggering.

● Microwaves cannot penetrate metal. Do not place product in a closed or a half-closed metal lamp. Neither metal nor glass is not allowed to cover above the product.