





SPECIFICATION

Product Name: ON/OFF Microwave Sensor

Model No.: MC098S F1

Issue Date: Nov 11, 2022

CUSTOMER APPROVED

PRODUCT DIRECTOR APPROVED	P&M CHECKED	R&D CHECKED	PREPARED
			

Shenzhen Merrytek Technology Co.,Ltd

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1. Features



- Low Impedance sensor antenna patent helps anti-interference kinds of wireless signal like 5G, Wi-Fi, Bluetooth etc.
- Patented dipole antenna design brings reliable detecting, avoid false trigger when sensor built-in backside of metal LED plate.
- Bulk order are compliant with RED approval.
- Adjustable detecting sensitivity via DIP switches, suitable to variety of installation sites.
- Ultra-slim design for Tri-proof LED lamps & ceiling lamps
- Support 6m Max. Mounting height .
- Switching power supply, will not affect the PF value of the whole lamp, in accordance with the latest ERP.
- Dialing code and remote control(MH03) are both supported for parameters setting.
- 5 years warranty.

2. Parameter

Input	Operating Voltage Range	120-277V 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	400W (Inductive) ; 800W (Resistive)
	Max. Surge Capacity	30A (50% Ipeak, twidth =500uS, 230Vac full load, cold start);
Sensor Parameters	Operating Frequency	5.8 GHz ±75 MHz , ISM Band.
	Transmitting power	1mW Max.
	Hold time	5S/30S/90S/5Min 10S/90S/3Min/10min (by remote MH03)
	Detection Sensitivity	100%/75%/50%/25% 100%/50% (by remote MH03)
	Daylight Sensor	25lux/Disable 5lux/15lux/50lux/Disable (by remote MH03)
	Detecting Radius	Ceiling mounting 3m high: 1m/S ≥2.5m (for built in lamp installation) Wall mounting 2m high: 1M /S ≥4m (for built in lamp installation)
	Mounting Height	3m (Max 6m)
	Detecting Angle	150° (Wall mounted)

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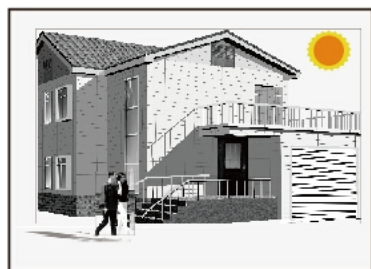
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Operating Environment	Operating Temperature	-20℃...+60℃
	Storage Temperature	-40℃...+80℃ (Humidity: ≤85% Non-condensing)
Certificate Standards	Safety standards	EN61058-1-2, EN61058-1
	EMC standards	EN61000-3-2, EN61000-3-3, EN62479 EN301489-1, EN55015, EN300440
	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	77.0*36.0*25.6mm
	Package	Bubble bag+Clapboard + Carton (K=A)
	Net Weight	45±3g
	Lifetime	5 years warranty @Ta 230V full load

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.

When set at daylight disable model or the ambient light level is below the preset daylight lux, the sensor will switch on the light when motion is detected.

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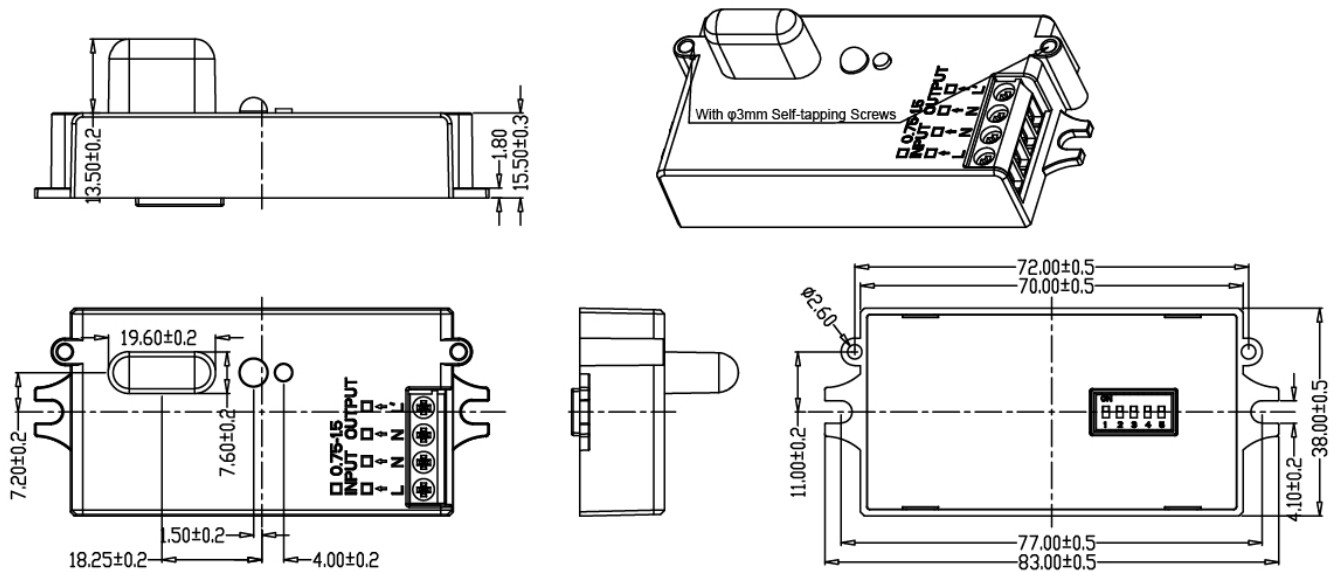
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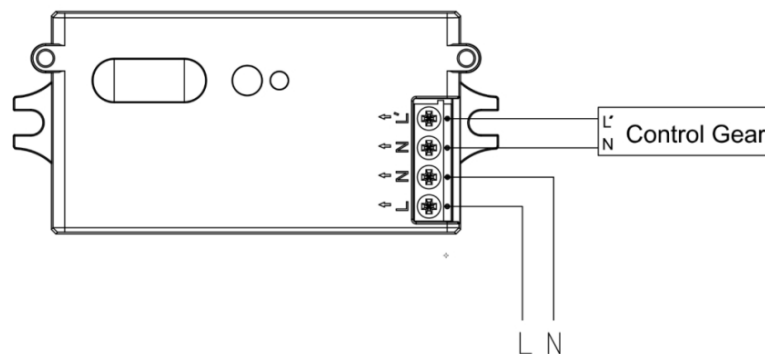
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4. Dimension (mm)

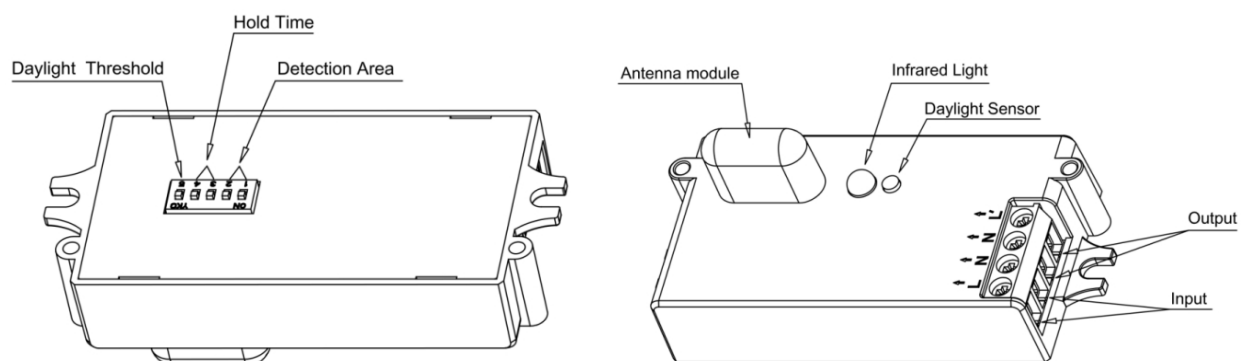


5. Wiring



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

6. Structure



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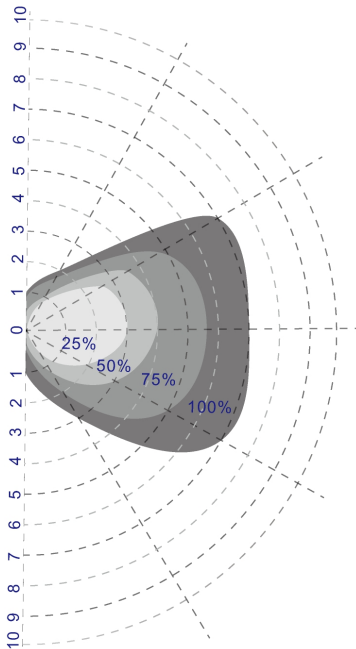
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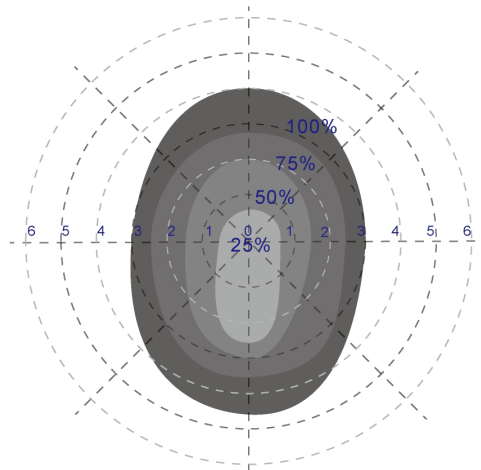
7. Radiation Pattern

(Below pattern is tested when sensors built-in three-proof lights and ceiling lights.)

Horizon mounted height: 2m
Sensitivity:
100%/75%/50%/25%

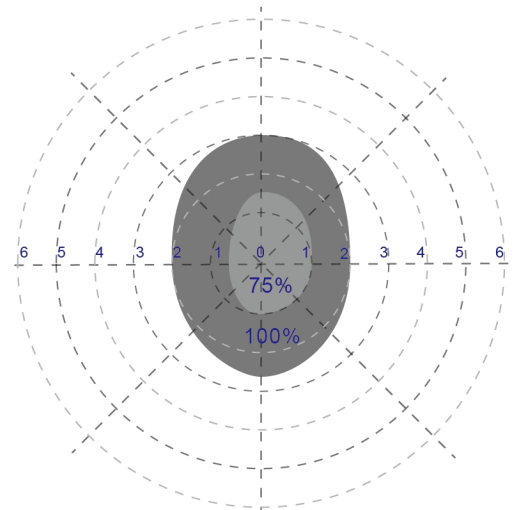


Ceiling mounted height: 3m
Sensitivity: 100%/75%/50%/25%



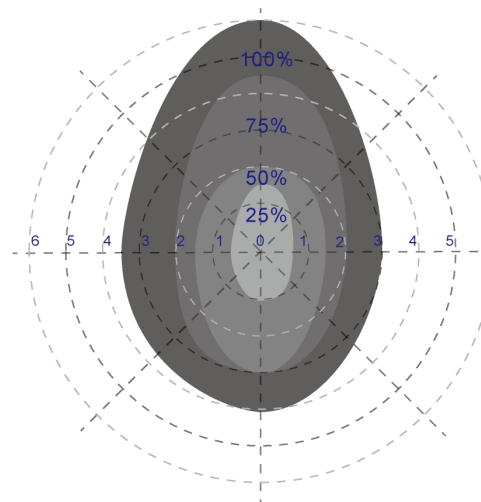
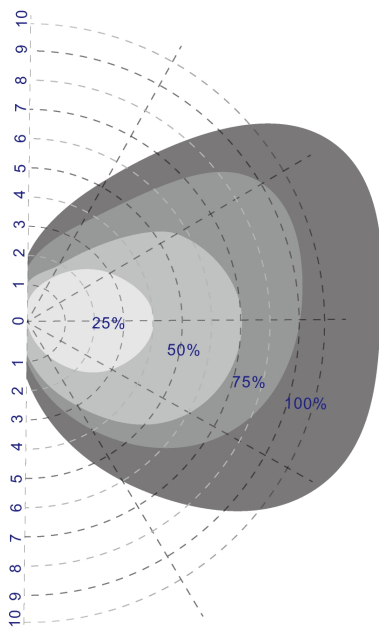
Normal moving (Speed: 1m/s)

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

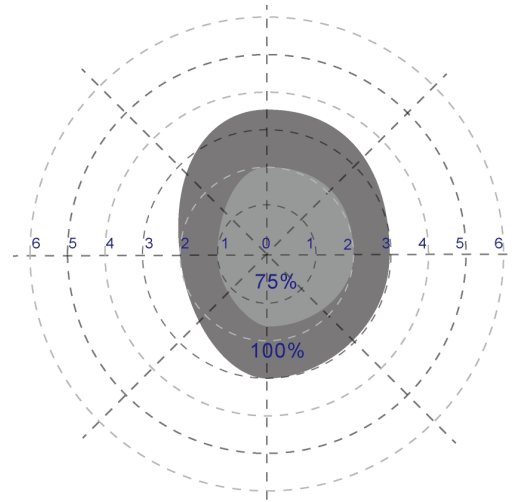


Normal moving (Speed: 1m/s)

Normal moving (Speed: 1m/s)



Slow moving (Speed: 0.3m/s)



Slow moving (Speed: 0.3m/s)

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.

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8. DIP Switch Setting

Detection Area

	1	2
100%	ON	ON
75%	-	ON
50%	ON	-
25%	-	-

Hold Time

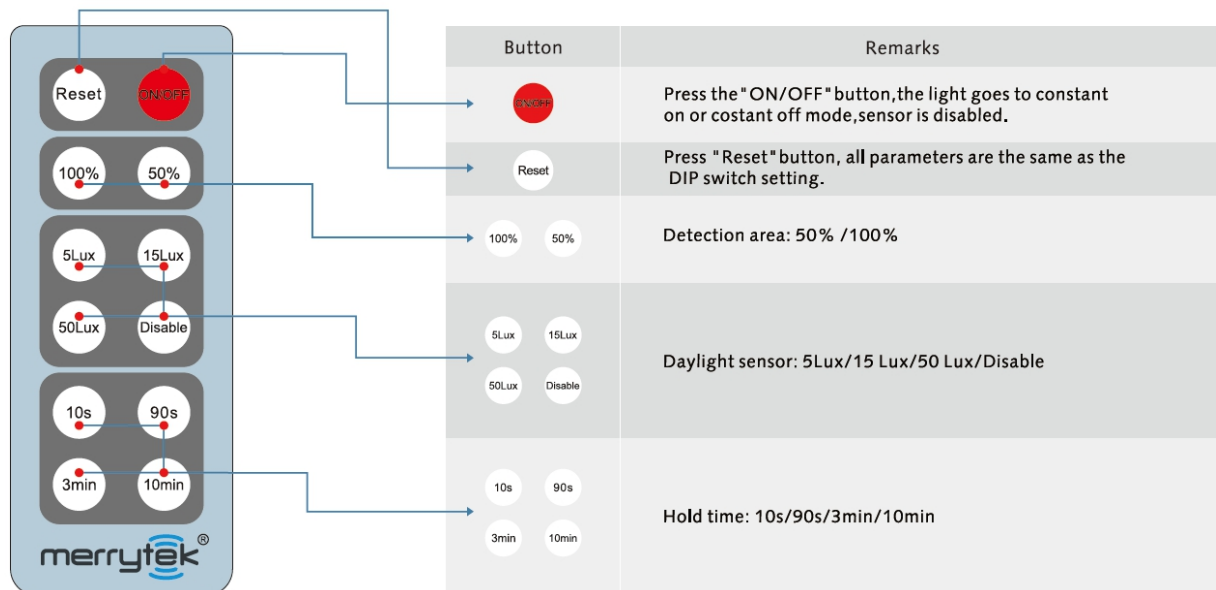
	3	4	
I	ON	ON	5S
II	-	ON	30S
III	ON	-	90S
IV	-	-	5min

Daylight Sensor

	5	
I	ON	25Lux
II	-	Disable

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

9. Remote Control(MH03)



10. 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.

11. Factory Setting

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

12. Application Notice

- 1) The sensor should be installed by a professional electrician. Please turn off the power before installing, wiring, changing the setting of the DIP switch.
- 2) Microwave can not penetrate metal, please avoid the product installed in closed or semi-closed metal lamps, ensure that there is no metal or glass cover above the product; If the antenna must pass through the metal plate, ensure that the top of the sensor is pressed against the metal plate
- 3) The installation distance between microwave sensors is recommended to be bigger than 1.5m, and it should be far away from switches, routers and other wireless devices to avoid radio interference. The installation distance between the two is recommended to be greater than 1.5m; The antenna surface of the microwave sensor must be far away from the input AC and output DC to avoid interference from low or high frequency signals.
- 4) Should avoid microwave sensor surrounding long-term vibration equipment or moving objects, the vibration signal will be regarded as mobile signal trigger induction, so the installation position should be far away from large metal equipment, ventilation pipes, air conditioning outlets, exhaust vents, smoke exhaust machine and other scenes; If a pet passes through the detection area, it may trigger the sensor.

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- 5) This product is suitable for indoor use only, semi-outdoor or outdoor installation, wind, rain may be regarded as mobile signal trigger induction; When the sensor is installed in metal lamps, metal reflective surface or narrow closed environment, the microwave will be reflected many times and trigger by mistake. Please reduce the sensitivity of the sensor or contact the manufacturer for technical support.
- 6) The sensor is better for ceiling mounting. If wall installation is used, the detection distance of microwave induction will be increased, which may lead to the phenomenon of microwave penetrating the wall or not putting out the lamp. Under this case, pls try to lower the sensitivity, If 25% cannot be used, avoid wall mounting or contact the manufacturer for technical support.
- 7) Product specifications and parameters may be optimized without prior notice.
- 8) The product sensing distance and the moving speed of the object, the size of the object, the installation height of the product, the installation Angle, the installation environment, reflective material and other factors related.
- 9) The detection distances showed in the specifications are typical values obtained by 165cm high testers in an indoor open environment.
- 10) If the antenna must pass through the metal plate, the hole should be no less than 20*8mm, and the top of the sensor must be close to the metal plate; The antenna is exposed at the opening, and the top of the sensor shell is close to the metal plate.

