

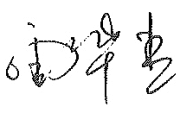
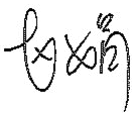
SPECIFICATION

Product Name: Microwave Motion Sensor

Model No.: MC002D 10

Issue Date: October 30, 2023

CUSTOMER APPROVED

PRODUCT DIRECTOR APPROVED	SALES CHECKED	R&D CHECKED	PREPARED
			

Shenzhen Merrytek Technology Co.,Ltd

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Website: www.merrytek.com

*Please read the 11th instruction carefully before using this product, since the performance of DC-powered microwave products is closely related to the stability and characteristics of the auxiliary power supply of the LED driver.

1. Features



- Built in motion sensor and daylight sensor.
- Powered by low voltage 12vdc,output ON/OFF and 0-10V signal.
- Slim design makes is suitable for more luminaries.
- Sensor parameter can be optional via DIP switch.
- Daylight priority function.

2. Parameter

Input	DC Input Voltage	12±1V DC
	Rated Voltage	12±0.6V DC
	Voltage Ripple	<300mVp-p
	Stand-by Power	<0.5W
Output	Working Mode	High and low frequency signal / 0-10Vsignal or High and low frequency signal / PWM
Sensor Parameters	Operating Frequency	5.8 GHz ±75 MHz , ISM Band.
	Transmitting power	0.5mW Max.
	Hold time	5S/30S/1min/3min
	Stand-by DIM Level	25% / 50%
	Stand-by period	0s/30S/3in/+∞
	Detection Area	50%/100%
	Daylight Sensor	5lux/15Lux/50Lux/Disable Daylight priority: ON / OFF value 5Lux / 15Lux 15Lux / 50Lux 50Lux / 100Lux
	Detecting Radius	3-4m (mounting height 3m) See note 2
	Mounting Height	6m Max
	Detecting Angle	150°
Operating Environment	Operating Temperature	-25℃...+60℃
	Storage Temperature	Temperature: -40℃...+80℃; Humidity: 10%-95% (non-condensing)
	EMC standards	EN55015, EN61000-3-2, EN61000-3-3, EN301489
	Environmental Requirement	Compliant to RoHS
	Certificate	N/A

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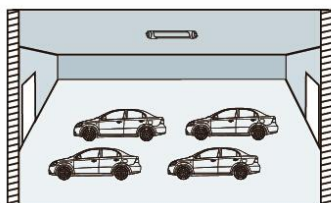
Others	Wiring	Cables
	IP Rating	IP20
	Protection Class	Class II
	Installation	Built-in installation
	Dimension	53x26.1x16mm
	Package	Bubble bag
	Net Weight	20g without cable
	Lifetime	5 years warranty@Ta 230V full load

Note

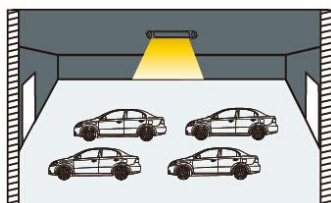
1. "N/A" means not available.
2. Detection area is effected on volume of motion object and motion speed. The detection area is tested by a 165cm height person and walking speed is 0.3m/s.

3. Function

1) On/OFF Function (stand-by period be set to "0"s)



- 1 With sufficient ambient light, the light will not be switched on even if with motion signal.

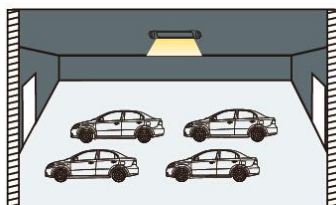


- 2 With insufficient ambient light, the sensor switches on the light when motion is detected.

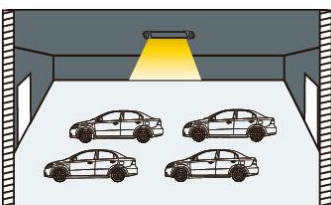


- 3 After elapse of hold time, the sensor switches off the light when no motion is detected.

2) 2-step dimming function (stand-by period be set to "+∞")



- 1 If there is no motion detected, the light will be remained at a low light level all the time.



- 2 When motion is detected, the sensor will switch on the light to 100% brightness



- 3 After elapse of hold time, the sensor dims the light at the present low light level if no motion is detected.

3) 3-step dimming function (stand-by period be set to "30S/10min")

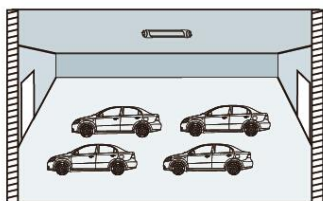
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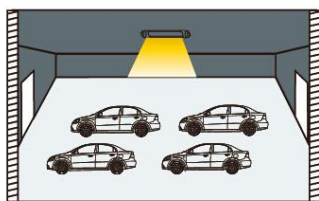
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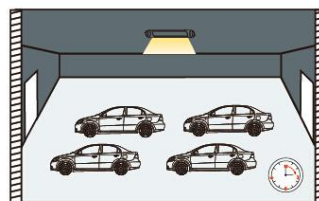
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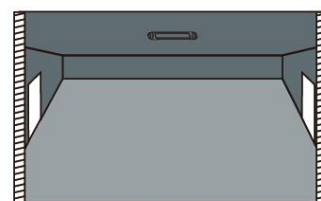
① With sufficient ambient light, the light will not be switched on even if with motion signal.



② With insufficient ambient light, the sensor switches on the light when motion is detected.



③ After elapse of hold time, the sensor dims the light at a low light level if no new motion is detected.



④ After elapse of standby period, the sensor switches off the light if no motion is detected in the detection zone.

4) Daylight priority (stand-by period set to $+\infty$)



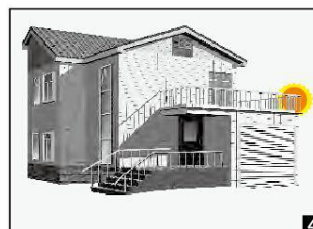
The lamp turns on to a low light level at night.



When motion is detected, the lamp automatically lights up to 100%.

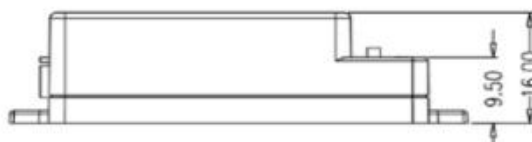
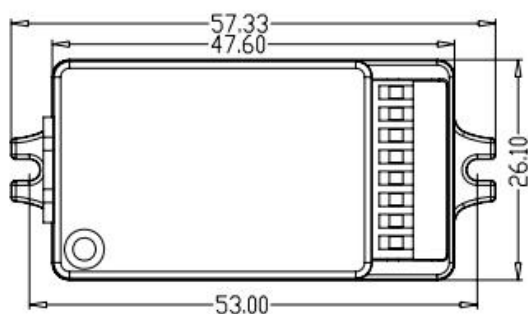


After hold time, the lamp gradually dims to a low light level if no movement is detected.

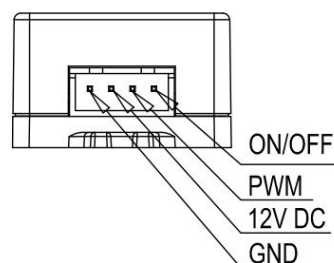
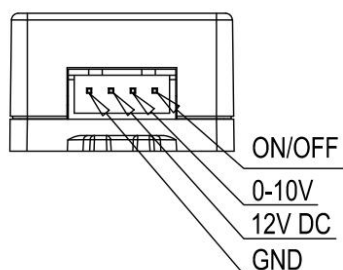


The lamp turns off after dawn.

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

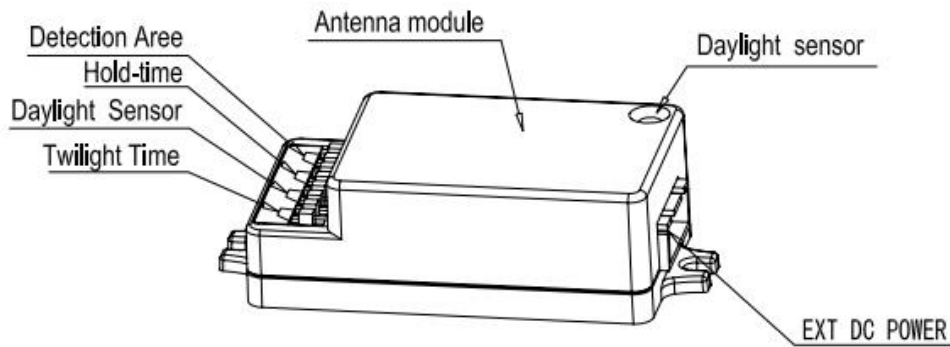
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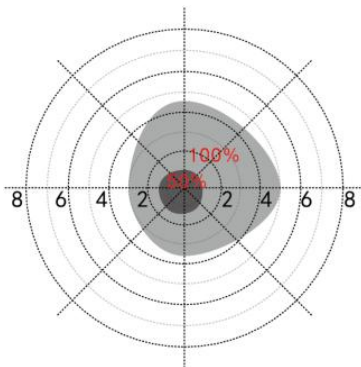
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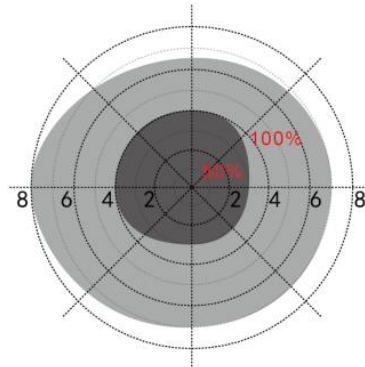
7. Radiation Pattern

Ceiling mounting:

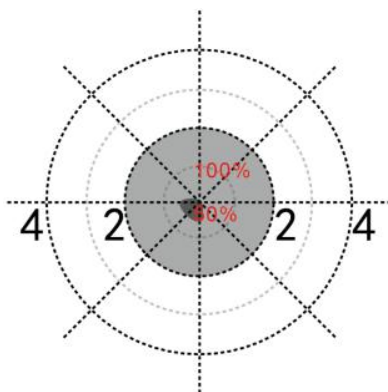
Mounting height: 3m
Detection area: 100%/50%



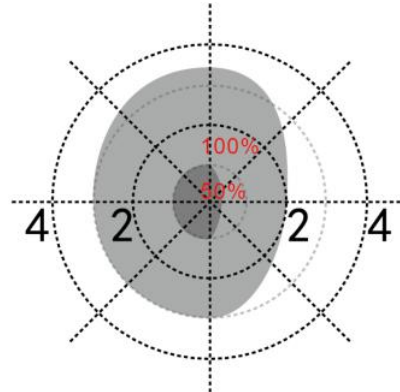
Mounting height: 3m
Detection area: 100%/50%



Moving speed: 1m/s
Mounting height: 6m
Detection area: 100%/50%

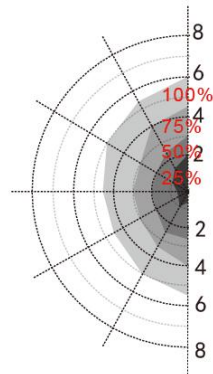


Moving speed: 0.3m/s
Mounting height: 6m
Detection area: 100%/50%



Wall mounting:

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



Moving speed: 1m/s

8. Dip switch setting

1) Detection Area

	1	
I	ON	100%
II	-	50%

2) Hold Time

	2	3	
I	ON	ON	5S
II	-	ON	30S
III	ON	-	1min
IV	-	-	3min

3) Stand-by period

	4	5	
I	ON	ON	0S
II	-	ON	30S
III	ON	-	3min
IV	-	-	+∞

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4) Daylight sensor

I	ON	ON	5 Lux
II	-	ON	15 Lux
III	ON	-	50Lux
IV	-	-	Disable

5) Stand-by DIM level

	8	
I	ON	50%
II	-	25%

9. Factory Setting

Detection Area: 100%, Hold Time: 5S , Stand-by period: 0S , Stand-by dim level: 25%,
Daylight sensor: Disable

10. Initialization

- 1) On/Off function /3-step dimming function: 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.
- 2) 2-step dimming function: After power on, the sensor automatically turns on light at 100% brightness. After 10sec, it dims the light to a low light level (set by stand-by dim level). During the initialization, the sensor is not able to detect movement.

11. Instruction

- 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) The sensor which installed in the plastic and glass lampshade will reduce the sensitivity. For every 3mm

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increase in thickness, the sensitivity will be reduced by 20%.

3) The dimming performance could be different from different 0/1-10v drivers.

4) The light sensitivity threshold is in a sunny environment, no shadow and ambient light diffuse reflection..Ambient lux level could be different in different environment, weather, climate, time-of-day and season.

5) The parameters of the sensor may need to be reconfigured in different installation environments. Please refer to the following instructions or contact the manufacturer.

6) Sensor could be triggered by wind and rain,as well as the moving objects nearby,if apply outdoor.

7) The mounting height is no more than 4m,proper mounting height is 3m;the distance between any inductive sensors should be greater than 3m.

8) Do not place the sensor close to high-density objects such as metal, glass,concrete walls, etc, false triggering could happen. When the sensor is installed in a metal lamp, metal reflective surface, or a narrow enclosed environment, the microwave will be reflected repeatedly and cause false triggering. Please reduce the sensitivity or contact the manufacturer for technical support.

9) Please ensure that there are no moving signals around the sensor, such as fan,DC motor, sewer pipe, air outlet, etc., the sensor may generate false trigger.

10) You are advised to test 5 samples before mass application of sensor in a new lighting project.

11) Due to continuous improvement, the contents of this instruction could be changed without prior notice

12) A stabilized DC power supply with stable output voltage and low ripple must be used, the power supply ripple should be less than 300mV, and the load current should be greater than 25mA.