

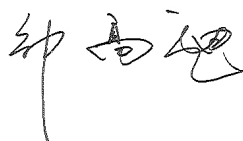

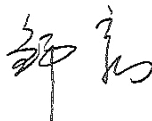

SPECIFICATION

Product Name: Microwave Motion Sensor

Model No.: MC080D/MC080D 1

Issue Date: March 17, 2021

CUSTOMER APPROVED

PRODUCT DIRECTOR APPROVED	SALES CHECKED	R&D CHECKED	PREPARED
			

Shenzhen Merrytek Technology Co.,Ltd

Add: No.17th Building, Dianda Guyuan Industrial Park, Mashantou, Matian, Guangming District, Shenzhen, China, 518106

Tel: +86 (0)755-2305 7253

Fax: +86 (0)755-2786 3012

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



- Patented needle antenna design solves the problem of instability of the sensor built-in backside of metal LED plate.
- Adjustable detecting sensitivity via DIP switches, suitable to variety of installation sites.
- Compatible control mode of high and low level signals and PWM signals.
- 5 years warranty

2. Parameter

Input	DC Input Voltage	12±2V DC
	Rated Voltage	12±0.6V DC
	Voltage Ripple	<300mVp-p
	Stand-by Power	≤0.5W
Output	Working Mode	High and low level /PWM
Dim Interface	High and Low-level	5V output
	PWM Control	5V output efficiency:1KHz
Sensor Parameters	Operating Frequency	5.8 GHz ±75 MHz, ISM Band.
	Transmitting power	0.5mW Max.
	Hold time	5S/90S/3min/10min
	Stand-by DIM Level	20%
	Stand-by Period	0S/30S/10min/+∞
	Detection Sensitivity	100%/75%/50%25%
	Daylight Sensor	5lux/15lux/50lux/+∞ (Ambient diffusion)
	Detecting Radius	4-6m (mounting height 3m) , see note 2
	Mounting Height	4m 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	Environmental Requirement	Compliant to RoHS
Others	Wiring	Press-in Type Terminals, wire diameter: 0.75-1.5mm ²
	IP Rating	IP20
	Protection Class	Class II

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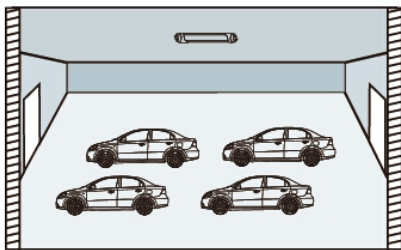
Others	Installation	Built-in
	Dimension	Φ12mm
	Package	Bubble bag+Clapboard + Carton (K=A)
	Net Weight	15.5g
	Lifetime	5 years warranty @Ta 230V full load

Note

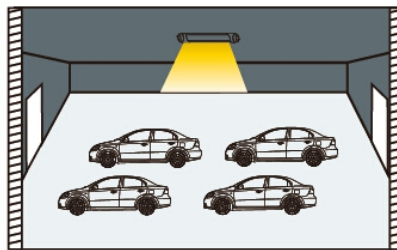
1. "N/A" means not available.
2. Detection area is effected on volume of motion object and motion speed. The detection area is tested by a 165cm height person and walking speed is 0.5m/s.

3. Function

1) On/OFF Function (stand-by period be set to "0"s, High and Low Level Signals)



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

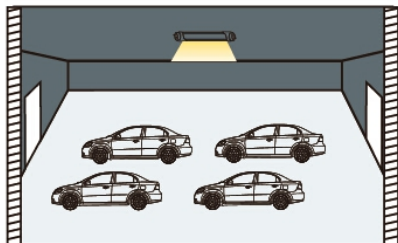


- 2 With insufficient ambient light, the sensor switches on the light when motion is detected.

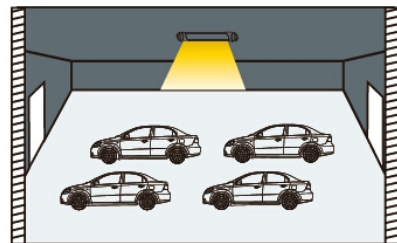


- 3 After elapse of hold time, the sensor switches off the light when no motion is detected.

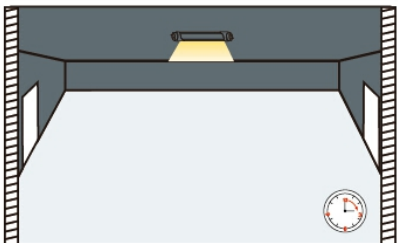
2) 2-step dimming function (stand-by period be set to "+∞", PWM Signals)



- 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.

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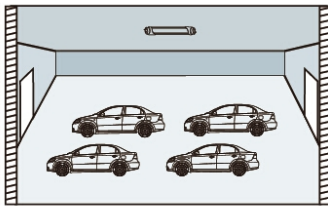
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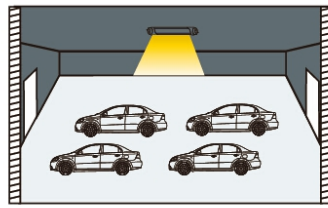
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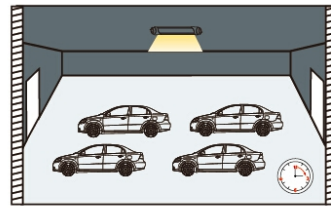
3) 3-step dimming function (stand-by period be set to "30S/10min", PWM Signals)



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.

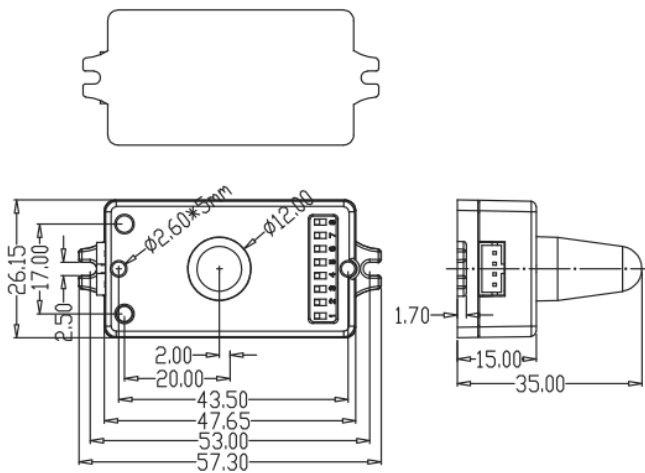


③ After elapse of hold time, the sensor dims the light at a low light level if no new motion is detected.

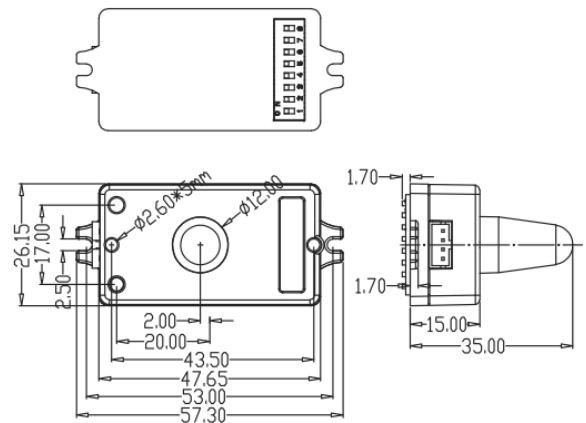


④ After elapse of standby period, the sensor switches off the light if no motion is detected in the detection zone.

4. Dimension (mm)

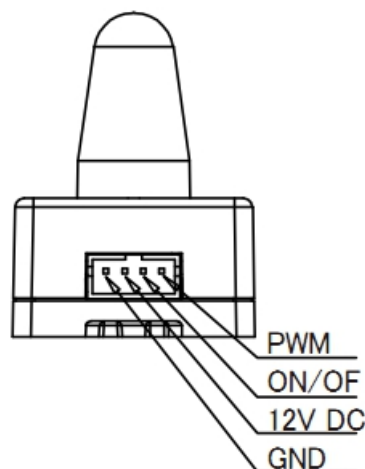


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5. Wiring



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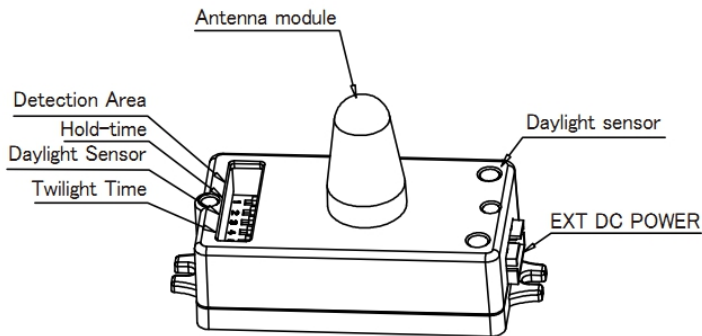
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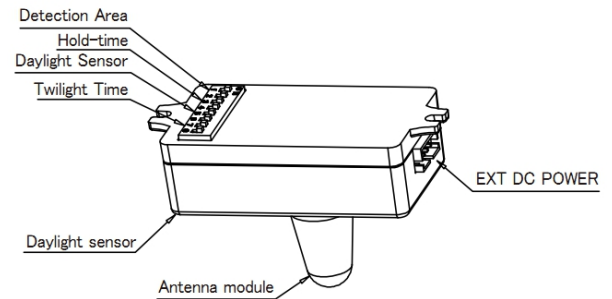
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6. Structure



MC080D

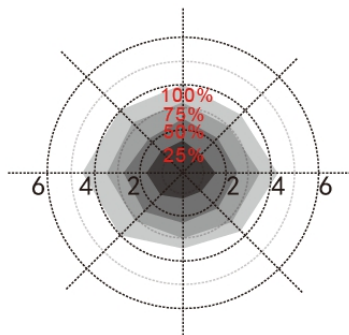


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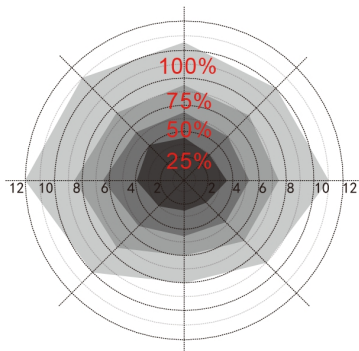
7. Radiation Pattern

Ceiling mounting

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

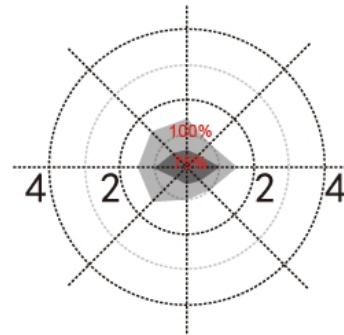


Normal moving (Speed: 1m/s)

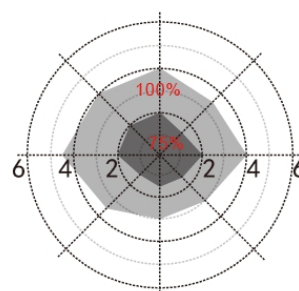


Slow moving (Speed: 0.3m/s)

Ceiling mounted height: 4m(*)
Sensitivity: 100%/75%



Normal moving (Speed: 1m/s)



Slow moving (Speed: 0.3m/s)

*Only 100%/75% detection sensitivity is workable when installed at 4m mounting height. 25%/50% sensitivity is not able to detect motion signal.

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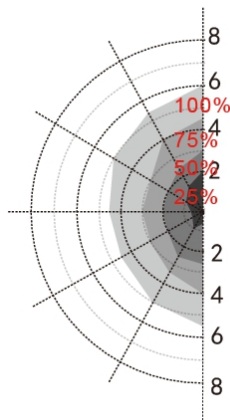
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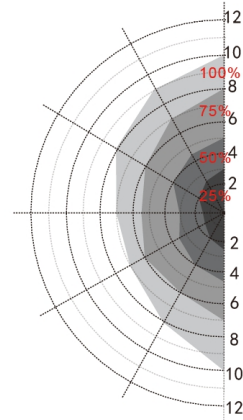
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Wall mounting

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



Normal moving (Speed: 1m/s)



Slow moving (Speed: 0.3m/s)

8. DIP Switch Setting

1) Detection Area (Sensitivity)

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

2) Hold Time

	3	4	
I	ON	ON	5S
II	-	ON	90S
III	ON	-	3min
IV	-	-	10min

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3) Daylight Sensor

	5	6	
I	ON	ON	5Lux
II	-	ON	15Lux
III	ON	-	50Lux
IV	-	-	Disable*

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

4) Stand-by Period

	7	8	
I	ON	ON	0S
II	-	ON	30S
III	ON	-	10min
IV	-	-	+∞

9. 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.

10. Factory Setting

Detection area: 100%, Hold Time: 5S, Daylight Sensor: 5lux, Stand-by Period:+∞

11. Instruction

1) Be sure to power off before adjusting DIP switch setting.

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- 2) The input power port can only be connected to 12V DC low voltage and cannot be connected to high voltage.
- 3) 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.

12. Version Change

Version	Date	Description
A0	July 7, 2018	Released new product