

# Specification

**Product Name:** Microwave Sensor

**Product Model:** MC002D 10 1

Versions	Release/ change Date	Reason	Publishing
A0	2022-06-07		James Guo

## 【Product Feature】

- Built-in microwave module and light control sensor, 12V DC input, 5V high / low level signal, PWM signal output
- Set the Detection Area, Hold Time, Stand-by Period and Daylight Sensor etc. paramters by the DIP switch
- Compatible 5V high / low level signal
- Daylight Priority function

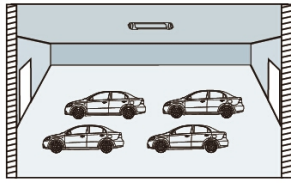


## 【Parameter】

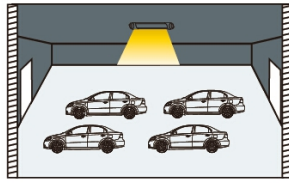
Input	Rated Voltage	7.5-12V DC		
	Working Current	<15mA		
	Ripple Voltage	<100mVp-p		
Output	PWM Dimming Signal	PWM		
	ON/OFF 5V Switch Signal	5V high and low level signal		
Sensor Parameter	Working Frequency	5.8 GHz ±75 MHz, ISM wave band		
	Transmitting Power	1mW Max		
	Detection Area	100%/50%		
	Hold Time	5s/5min/10min/30min		
	Stand-by Dimming Level	10%(low brightness ratio varies with different drivers)		
	Stand-by Period	0s/30s/10min/+∞ (PWM Dimming Signal)		
	Daylight Sensor	Normal	5Lux/100Lux/200/lux/Disable (Ambient light dissuse state)	
		Daylight Priority	ON	OFF
			5Lux	75Lux
			100Lux	200Lux
			200lux	300Lux
	Detection Area(100% sensitivity radius)	Ceiling installation 3m high: r ≥ 4m@0.3m/s, r ≥ 2.5m@1m/s; Horizontal installation 2m high: r ≥ 6m@0.3m/s, r ≥3m@1m/s		
	Mounting Height	Typical value: 3m (6m Max)		
3dB Beam Angle	95 °@XZ plane			
	80 °@YZ plane			
Environment	Working Environment	-25~70℃		
	Storage Environment	20~30℃ humidity:≤60%		
Certificate Standard	Certificate	CE RED		
	Environmental Requirement	Compliant to RoHS requirements		
	IP Rating	IP20		
Others	Wiring	Terminal	4pin 2.54mm terminal	
	Installation	☒ Bulid-in		
	Product Size	As dimension		
	Package	Clap board+Outer box (K=A)		
	Net Weight	20g		
	Life Time	5 years warranty@Ta 12V dc		
Note: N/A” means not available				

## 【Function Description】

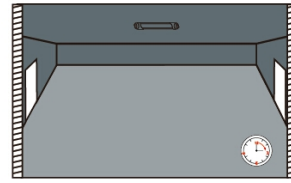
### 1. Switch function (Stand-by Period set to “0s”)



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

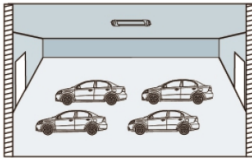


② With insufficient ambient light, the sensor switches on the light when motion is detected.

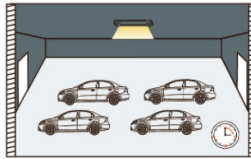


③ After elapse of hold time, the sensor switches off the light when no motion is detected.

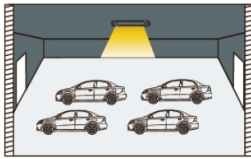
### 2. M+P: Sensing+Daylight Priority (stand-by period set to “+∞”)



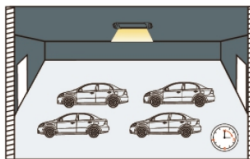
① With sufficient ambient light, the light will not be switched on even if with motion signal.



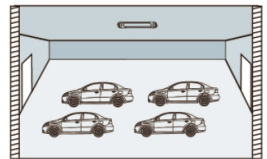
② When the ambient light is insufficient, the lamp will turn on and enter the low light state (standby level).



③ With insufficient ambient light, the lamp goes on full light when a mobile signal is detected.



④ After hold time, if no moving is detected in the detection area, the lamp will automatically turn to standby brightness.



⑤ Lamp turns off after dawn.

### 3. P: Daylight Priority mode



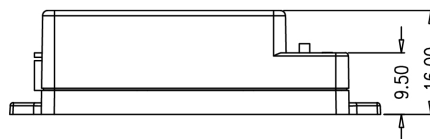
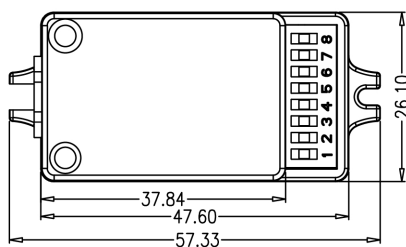
① When the external brightness exceeds the set value in the morning, the light automatically turns off



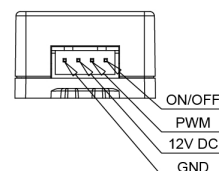
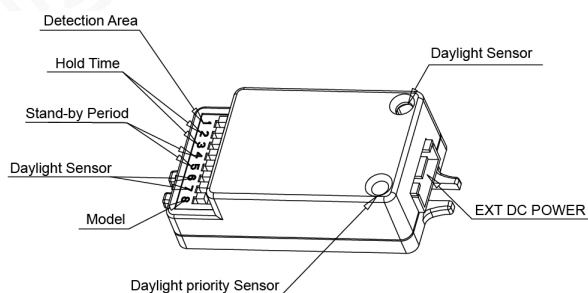
② When the external brightness is lower than the set value in the evening, the light automatically lights up.

## 【Dimension】

### ● Dimension (Unit: mm)



### ● Wiring



## 【DIP Switch Setting】

### ● Detection Area

	1	
I	ON	100%
II	-	50%

### ● Hold Time

	2	3	
I	ON	ON	5s
II	-	ON	5min
III	ON	-	15min
IV	-	-	30min

### ● Stand-by Period

	4	5	
I	ON	ON	0s
II	-	ON	5min
III	ON	-	15min
IV	-	-	+∞

### ● Daylight Sensor

M+P: Daylight threshold (when the hold time is +∞, the mode is the daylight priority function)

	6	7	
I	ON	ON	5Lux
II	-	ON	100Lux
III	ON	-	200Lux
IV	-	-	Disable

P: Daylight sensor switch

	6	7	ON	OFF
I	ON	ON	5Lux	75-100Lux
II	-	ON	100Lux	200-250Lux
III	ON	-	200Lux	300-350Lux
IV	-	-	Disable	Disable

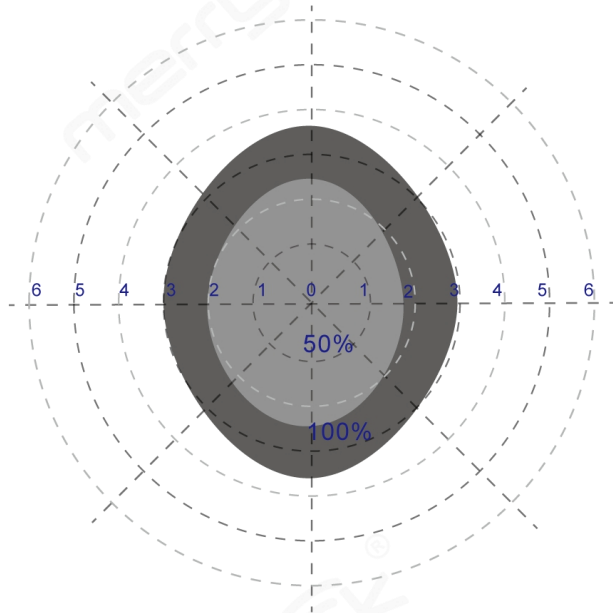
### ● Daylight Sensor Mode

	8	
I	ON	M+P
II	-	P

## 【Detection Range】

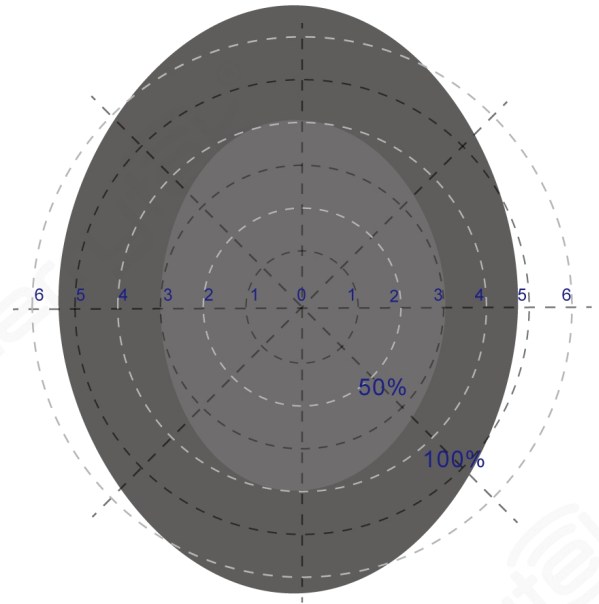
- Ceiling mounting

Ceiling mounting: 3m  
Detection area: 100% / 50%



Walk slowly (walking speed approx. 0.3m/s)

Ceiling mounting: 3m  
Detection area: 100% / 50%



Walk quickly (Walking speed approx. 1m/s)

## 【Initialization】

After power on, the sensor automatically turns on light to 100% brightness and will be turned off after 10 seconds. During initialization, sensor is not able to detect outside motion.

## 【Default Setting】

Sensitivity: 100%, hold time: 5s, Stand-by Period: 0s, Daylight sensor: Disable, Stand-by DIM Level: 10%  
Daylight sensor mode: M+P(If the order has requirements, please do as the order requires)

## 【Application Notice】

- Sensor should be installed by a professional electrician. Please turn off power before installing, wiring, or setting the DIP switches.
- 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 high testers in an indoor open environment.
- The detection area of the wall installation will be greatly increased compared with ceiling installation. If wall installation is used, please reduce the sensitivity or contact us to confirm the use setting. 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.
- The parameters of the sensor 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 cannot exceed 6m, and the typical height is 3m; 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, microwaves will be reflected multiple times and cause false triggering. Please reduce the sensor sensitivity or contact the manufacturer for technical support.
- Vibration signals will be regarded as moving signals to trigger sensor. Installing sensor should be away from the object that vibrates for a long time, such as large metal equipment, pipes, air conditioning outlets, exhaust vents, smoke exhaust machine ports, shaking fans, etc.
- Microwaves cannot penetrate metal, please 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.
- The sensor is equipped with different PWM drivers, the low light effect may be different.
- A DC regulated power supply with stable output voltage and low ripple coefficient must be used. The ripple of the power supply should be less than 100mV ; the load current should be greater than 25 mA
- Product specifications and parameters may be optimized without prior notice.