



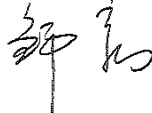

# SPECIFICATION

Product Name: Microwave motion sensor

Model No.: MC605V D

Issue Date: August 17, 2021

CUSTOMER APPROVED

PRODUCT DIRECTOR APPROVED	SALES CHECKED	R&D CHECKED	PREPARED
			

Shenzhen Merrytek Technology Co.,Ltd

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Fax: +86 (0)755-2786 3012

Website: [www.merrytek.com](http://www.merrytek.com)

## 1. Features



- Built -in motion sensor and daylight sensor
- With mini sensor detector ,which is suitable for more luminaires
- All sensor data can be adjusted by DIP switch
- 0-10v match MS01 can achieve daylight harvesting function
- With Sync port for wiring grouping
- 5 years warranty

## 2. Parameters

Input	Operating voltage	110-308V AC 50Hz/60Hz
	Rated voltage	120/277V AC 50Hz/60Hz
	Stand-by power	≤1.0W
	Surge test	N—L: 1kV
Output	Working mode	ON/OFF 0-10V dimming
	Type of load	Inductive or resistive
	Load capacity	@120V AC 3.6A Ballast @277V AC 3.4A Ballast
	Max.surge capacity	10A--30A (50% Ipeak, twidth =500uS, 277Vac full load, cold start); 60A (50% Ipeak, twidth =200uS, 277Vac, full load, cold start)
Dim interface	0-10V Dimming	< 50mA (Non-constant source)
Sensor parameters	Operating frequency	5.8 GHz ±75 MHz, ISM band
	Transmitting power	0.5mW Max.
	Hold time	5s/30s/90s/3min/20min/+∞
	Stand-by dim Level	10%/20%/30%/50%
	Stand-by Period	0S/5S/5min/10min/30min/1h/+∞
	Detection Area	25%/50%/75%/100%
	Daylight Sensor	5Lux/15Lux/30Lux/50Lux/100Lux/150Lux/Disable
	Detection range (radius)	3-10m (ceiling mounting;3m)
	Mounting height	support 6m Max.
	Detecting Angle	150°(wall mounting) 360°(ceiling mounting)
Operating environment	Operating Temperature	-35℃...+70℃
	Storage Temperature/humidity	-40℃...+80℃ Humidity: 85% (non-dew)
Certificate Standards	Safety standards	UL60730
	Environmental Requirement	Compliant to RoHS

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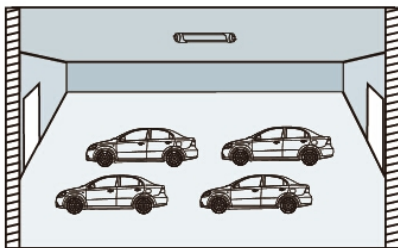
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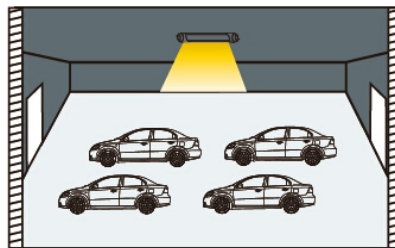
	Certificate	UL
Others	Wiring	Press-in terminals    wire diamter: 10-24 AGW
	IP Rating	IP20
	Protection Class	Class II
	Installation	Built-in
	Installation imension	Inch:5.04    (mm: 128)
	Package	Bubble bag+ Clapboard+ Carton(K=A)
	Net weight	119g
	Life time	5 years warranty@Ta 230V full load
<p>Note 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</p>		

### 3. Function

#### 1. On-off function (Stand-by Period "0s" )



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

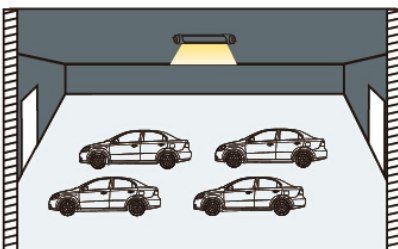


- ② With insufficient ambient light, the sensor switches on the light when motion is detected.

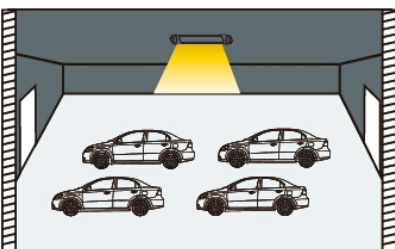


- ③ After elapse of hold time, the sensor switches off the light when no motion is detected.

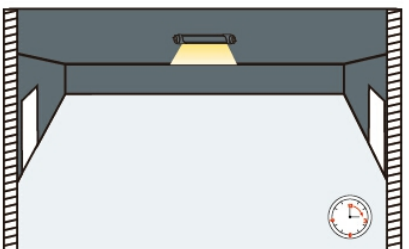
#### 2. 2-step dimming function (Stand-by Period "+∞" )



- 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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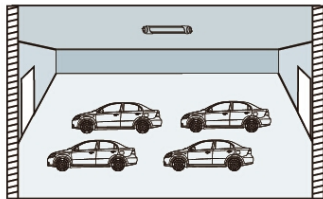
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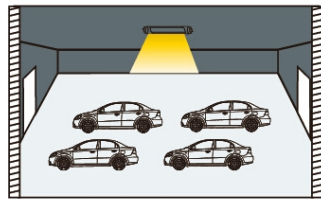
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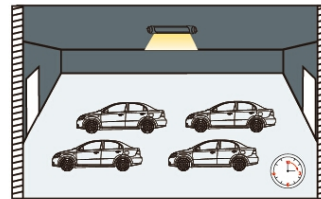
### 3. 3-step dimming function (Stand-by Period “5s/5min/10min/30min/1h”)



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.

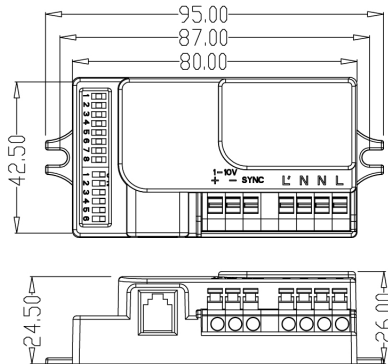


③ After elapse of hold time, the sensor dims the light at a low light level if no new motion is detected.

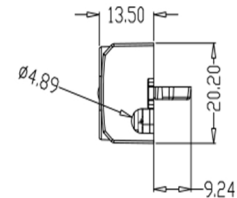
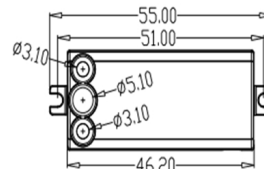


④ After elapse of standby period, the sensor switches off the light if no motion is detected in the detection zone.

### 4. Dimension (mm)

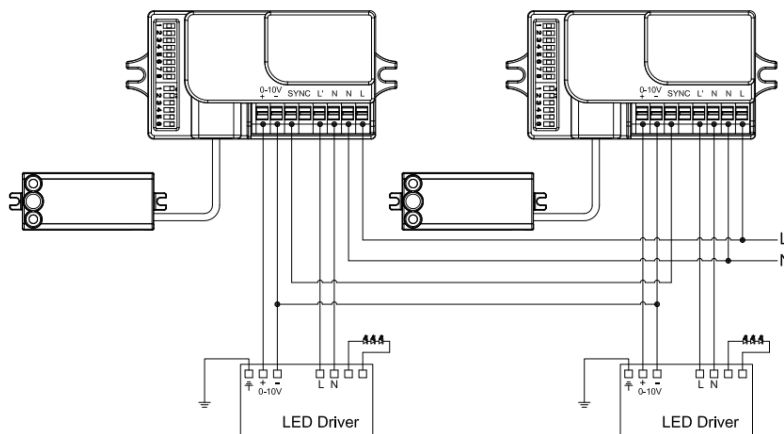


Main Size



Mini head

### 5. Wiring



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

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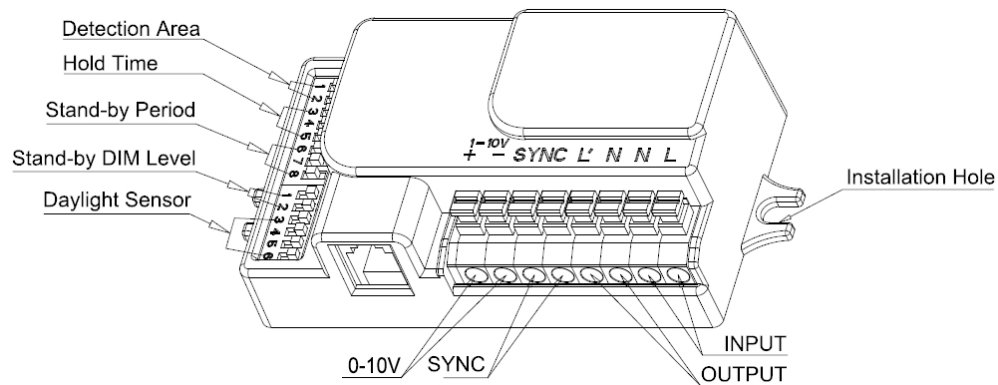
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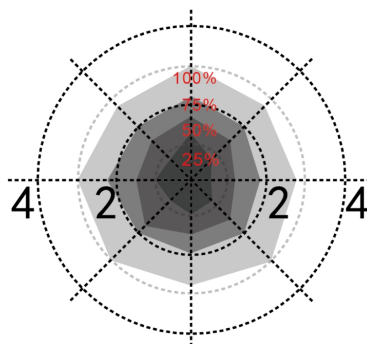
## 6. Structure



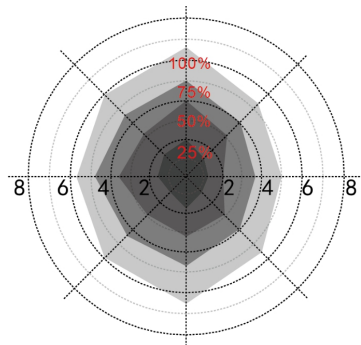
## 7. Detection pattern

### 1) Ceiling mounting

Height: 3m  
Sensitivity: 100%/75%/50%/25%

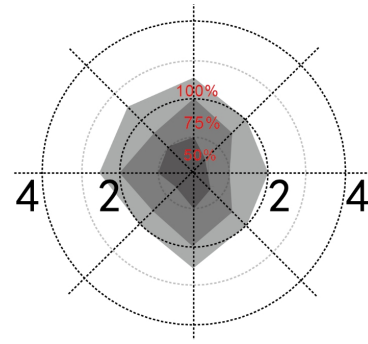


Normal moving (Speed: 1m/s)

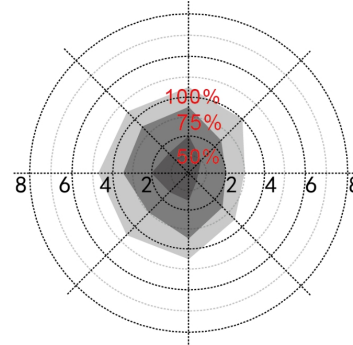


Slow moving (Speed 0.3m/s)

Height: 6m  
Sensitivity: 100%/75%/50%



Normal moving (Speed: 1m/s)



Slow moving (Speed 0.3m/s)

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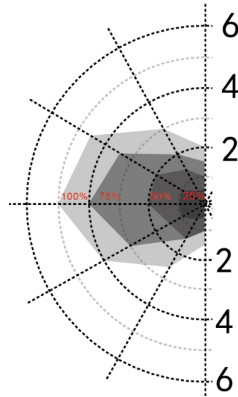
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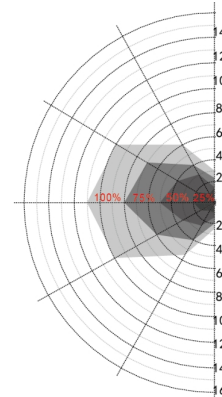
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## 2) Walling mounting

Horizontal installation: 2m  
Sensor range setting: 100%/75%/50%/25%



Normal walking (walking speed: 1m/s)



Slow walking (walking speed: 0.3m/s)

## 8. Dip switch settings

### Detection Area

	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	3min
V	ON	ON	-	20min
VI	-	-	-	+∞

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### Stand-by Period

	6	7	8	
I	ON	ON	ON	0S
II	-	ON	ON	5S
III	ON	-	ON	5min
IV	-	-	ON	10min
V	ON	ON	-	30min
VI	-	ON	-	1H
VII	-	-	-	+∞

### Stand-by dimming level

	1	2	brightness
I	ON	ON	50%
II	-	ON	30%
III	ON	-	20%
IV	-	-	10%

### Daylight Sensor

	3	4	5	6	
I	ON	ON	ON	ON	5Lux
II	-	ON	ON	ON	15Lux
III	ON	-	ON	ON	30Lux
IV	-	-	ON	ON	50lux
V	ON	ON	-	ON	100lux
VI	ON	ON	ON	-	150lux
VII	-	-	-	-	Disable

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## 9. Initialization

1. Switch function/three-stage dimming function: the light will be turned on 100% brightness by the initial energizing sensor, and will be turned off after 10 seconds. During initialization, no external motion sensing signal will be detected.
2. Two-phase dimming function: the light will turn on 100% brightness in the initial energizing sensor, and turn to low brightness 10 seconds later (the brightness set by stand-by dim level). During initialization, no external motion sensing signal will be detected.

## 10. Factory setting

Detection Area: 100%, Hold Time: 5S, Daylight Sensor: Disable, Stand-by Period: 0S, Dimming brightness preset function: 50%

## 11. 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) The sensor which installed in the plastic and glass lampshade will reduce the sensitivity. For every 3mm increase in thickness, the sensitivity will be reduced by 20%.
- 3) 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.
- 4) The parameters of the sensor may need to be reconfigured in different installation environments.
- 5) This sensor is for indoor use only. It will affect the waterproof effect for outdoor use. Wind, rain, and moving objects around will cause false triggering.
- 6) The distance between any inductive sensors should be greater than 3m.
- 7) 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.
- 8) 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.
- 9) The data on detection pattern is typical value tested without any lighting fixture in Merrytek factory, the detection range could be affected by moving speed, installation height, motion object and different environment.
- 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.