


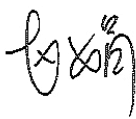
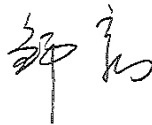

# SPECIFICATION

Product Name: Microwave motion sensor

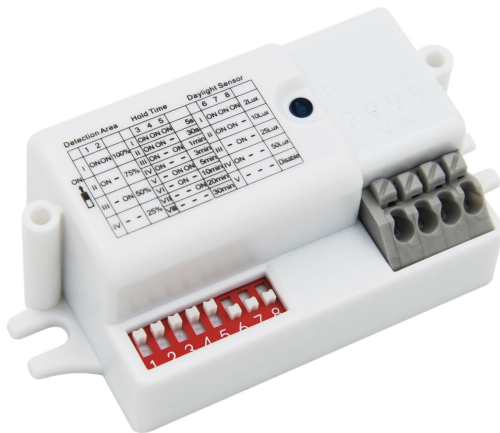
Model No.: MC090S E

Issue Date: Nov 15, 2022

CUSTOMER APPROVED

PRODUCT DIRECTOR APPROVED	SALES CHECKED	R&D CHECKED	PREPARED
			

## 1. Features



1. Microwave motion detection version.
2. Eight DIP switch setting, distance, time, daylight sensor, multi-speed adjustable.
3. Ultra-small mounting size, multiple mounting options, support for top and bottom mounting options.
4. Super cost-effective, support a variety of lamps, tri-proof lamps, ceiling lamps.
5. The infrared sensor is used to filter out the light sensor, and the light sensitivity value is more accurate, and is not affected by cloudy and sunny days.
6. Low impedance 5.8G antenna for superior immunity to interference.
7. Batch over RED, TUV certification.
8. 5 years warranty

## 2. Parameter

<b>Input</b>	Rated Voltage	220-240VAC 50/60Hz
	No-load Power	≤1.0W
	Stand-by Power	≤0.5W
	Surge Test	Between L and N: 1KV
<b>Output</b>	Working Mode	ON/OFF
	Type of Load	Resistive or Capacitive
	Load Capacity	800W (Resistive) or 400W (Capacitive)
	Load surge current	30A relay - 30A (test twidth 500us @230Vac at 50% Ipeak, cold start at full load) or 60A (test twidth 200us @230Vac at 50% Ipeak, cold start at full load)
<b>Sensor</b>	Operating Frequency	5.8 GHz ±74.9 MHz. ISM wave band
	Transmitting power	0.5mW Max.
	Hold time	5S/30S/60S/3min/5min/10min/20min/30min
	Detection Area	100% / 75% / 50% / 25%
	Daylight Sensor	2Lux/10Lux/25Lux/50Lux/Disable
	Detecting Radius (Detection Area: 100%)	Ceiling Mounting at 3m: 0.3m/S ≥4m, 1m/S ≥2.5m Wall Mounting at 2m: 0.3m/S ≥8m, 1m/S ≥4m
	Mounting Height	2.5-6 m(Suction Top Installation)
	Detecting Angle	90°@Xz filed / 95°@Yz filed
<b>Operating Environment</b>	Operating Temperature	-20℃...+60℃ Humidity: 85% (non-condensing)
	Storage Temperature	-40℃...+80℃
	Maximum shell temperature(Tc)	80℃

<b>Certificate Standards</b>	Safety standards	EN61058-1
	EMC standards	EN300440, EN301489-1, EN55015, EN61547, EN61000-3-2, EN61000-3-3, EN62479
	Environmental Requirement	RoHS
	Certificate	CE, TUV & RED
<b>Others</b>	Input/output terminal specifications	0.5-0.75mm <sup>2</sup>
	IP Rating	IP20
	Protection Class	Class II
	Installation	Built-in installation
	Dimension	62*36*25mm
	Package	Bubble bag + partition + outer box (K=A)
	Net Weight	36g
	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

#### On/OFF Function



With sufficient light, the lamp doesn't switch on.

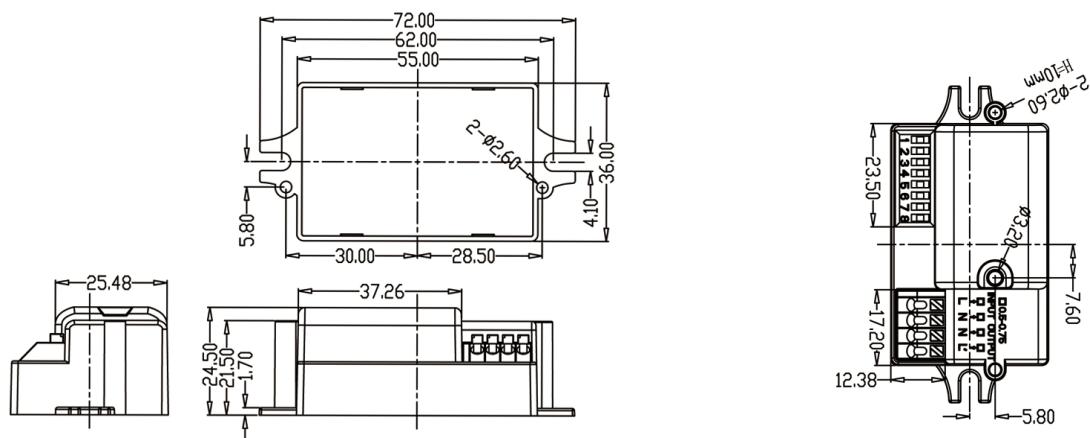


With insufficient ambient light, the sensor switches on the lamp when motion is detected.

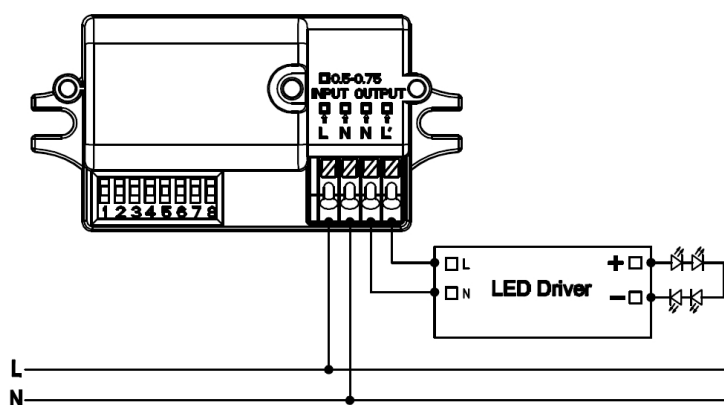


After hold time, the sensor switches off the lamp when no motion is detected.

## 4. Dimension (mm)

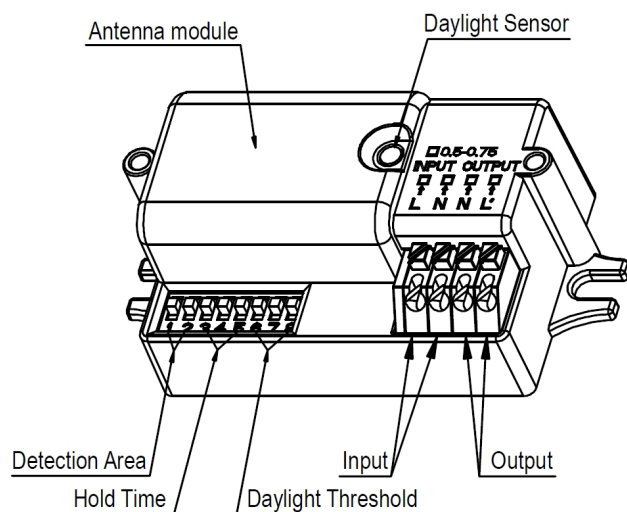


## 5. Wiring



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

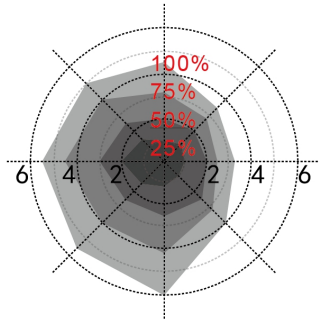
## 6. Structure



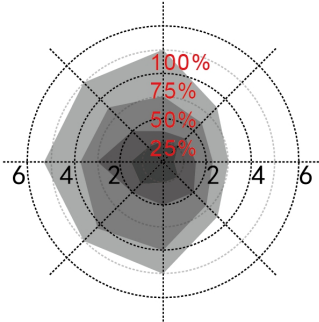
## 7. Radiation Pattern

Ceiling mounting

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

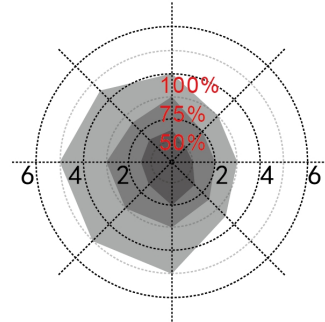


Normal moving (Speed:1m/s)

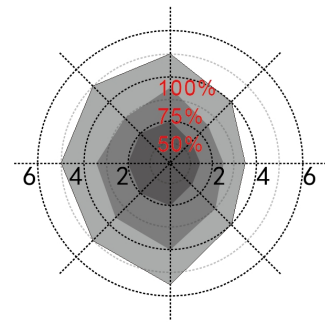


Slow moving (Speed 0.3m/s)

Ceiling mounted height: 6m(\*)  
Sensitivity: 100%/75%/50%



Normal moving (Speed:1m/s)

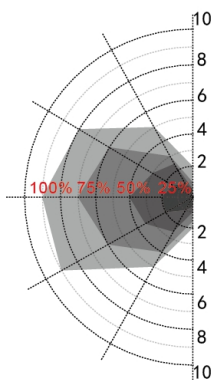


Slow moving (Speed: 0.3m/s)

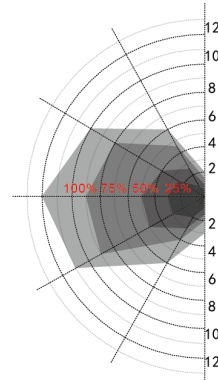
\*50%,75%,100% detection sensitivity is workable when installed at 6m mounting height. Only 25% sensitivity is not able to detect motion signal.

Wall mounting:

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



Normal moving (Speed: 1m/s)



Slow moving (Speed 0.3m/s)

## 8. Function Dialing Settings

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

## 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	1min
IV	ON	-	-	3min
V	-	ON	ON	5min
VI	-	ON	-	10min
VII	-	-	ON	20min
VIII	-	-	-	30min

## Daylight Sensor

	6	7	8	
I	ON	ON	ON	2Lux
II	ON	ON	-	10Lux
III	-	ON	-	25Lux
IV	ON	-	-	50Lux
V	-	-	-	Disable

\*When set to Disable gear, the sensor will turn on the light as long as the motion of the object is detected, regardless of whether the illumination is adequate or not.

## 9. Override Function

Power off, quick switch ON/OFF sensor 3 times (ON-OFF-ON-OFF-ON) within 2sec to override sensor function.

Lights will blink 3 times and then switch ON all the time. Power off and on again to recover sensor function.

## 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 settings

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

## 12. Use Caution

1. Be sure to cut off the power supply before installing or adjusting the setting of the dial switch.
2. The microwave cannot pass through the metal, make sure there are no metal above the sensor.
3. It has to be at least 3.5mm away from metal around the microwave antenna. It is not allowed to place antenna and metal on the same horizontal.

