


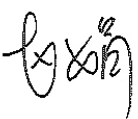
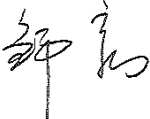

SPECIFICATION

Product Name: Microwave motion sensor

Model No.: MC090S U

Issue Date: March 21, 2019

CUSTOMER APPROVED

| PRODUCT DIRECTOR APPROVED | SALES CHECKED | R&D CHECKED | PREPARED |
|---|---|---|---|
|  |  |  |  |

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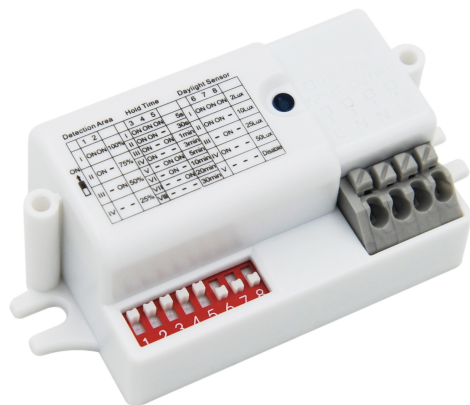
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Tel: +86 (0)755-2305 7253

Fax: +86 (0)755-2786 3012

Website: www.merrytek.com

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.

2. Parameter

| | | |
|------------------------------|-------------------------|--|
| Input | Operating Voltage Range | 105-300VAC 50/60Hz |
| | Rated Voltage | 120-277VAC 50/60Hz |
| | No-load Power | ≤1.0W |
| | Stand-by Power | ≤0.5W |
| | Surge Test | Between L and N: 1KV |
| Output | 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) |
| Sensor | 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 | 4-7m (Installed at 3m high) |
| | Mounting Height | 2.5-6 m(Suction Top Installation) |
| | Detecting Angle | Ceiling mount 150° |
| Operating Environment | Operating Temperature | -20℃...+60℃ Humidity: 85% (non-condensing) |
| | Storage Temperature | -40℃...+80℃ |

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| | | |
|---|--------------------------------------|--|
| Certificate Standards | Safety standards | EN61058-1, EN61058-1-2 |
| | EMC standards | EN55015, EN61547, EN61000-3-2, EN61000-3-3 |
| | Environmental Requirement | RoHS |
| | Certificate | UL |
| Others | Input/output terminal specifications | 0.5-0.75mm ² |
| | 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 |
| <p>Note</p> <p>1. "N/A" means not available.</p> <p>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

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.

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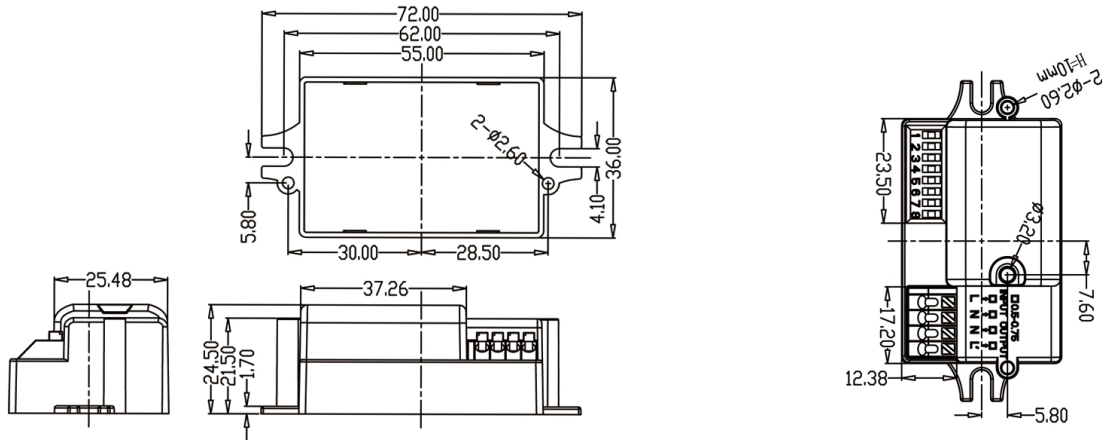
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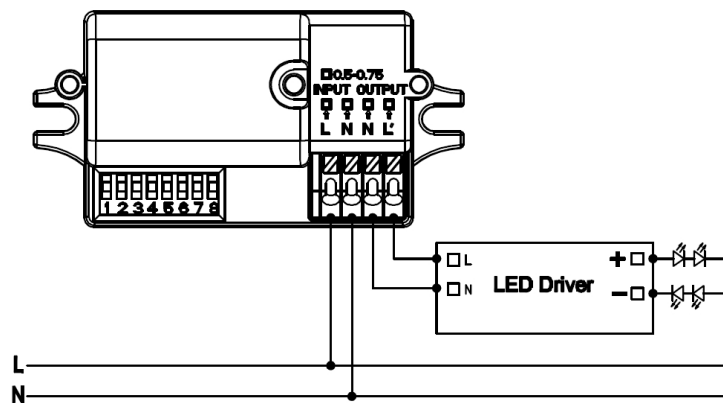
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4. Dimension (mm)

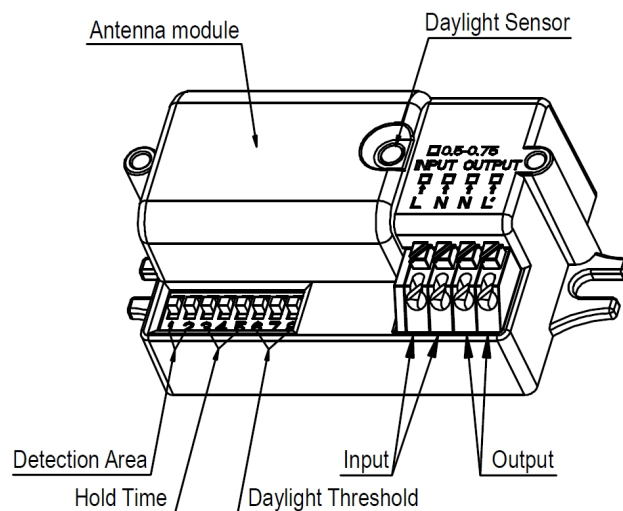


5. Wiring



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

6. Structure



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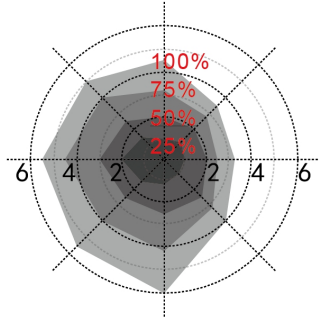
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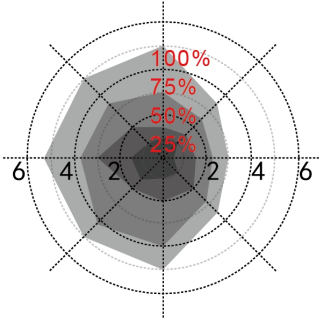
7. Radiation Pattern

Ceiling mounting

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

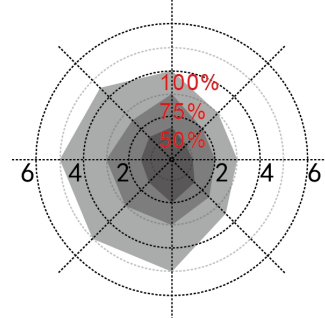


Normal moving (Speed:1m/s)

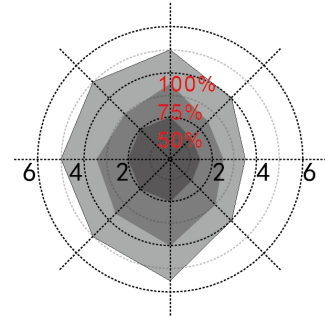


Slow moving (Speed 0.3m/s)

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



Normal moving (Speed:1m/s)

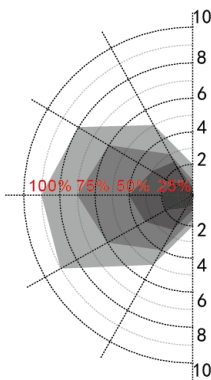


Slow moving (Speed: 0.3m/s)

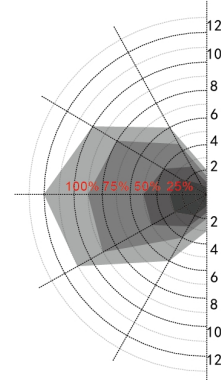
*50%,75%,100% detection sensitivity is workable when installed at 6m mounting height. Only 25% sensitivity is not able to detect motion signal.

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

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.

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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.

