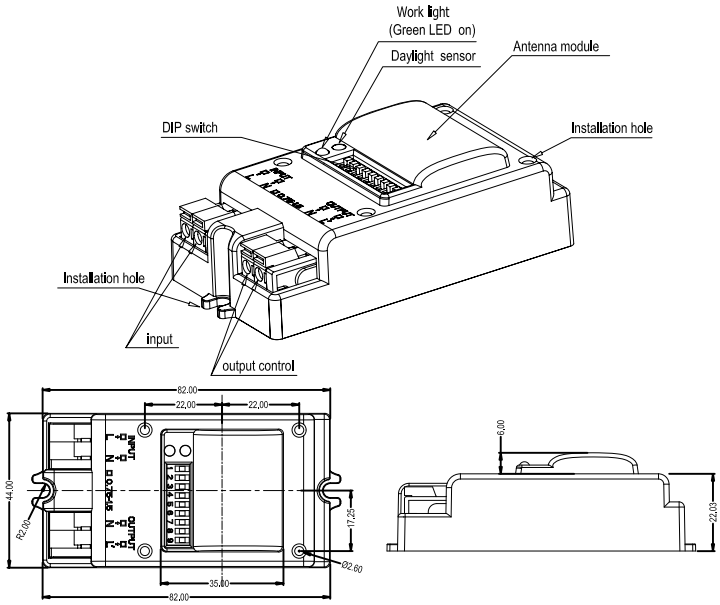
# MICROWAVE MOTION SENSOR USER'S MANUAL
# Model No.: MC018S, MC019S

## Features

- 5.8GHz high frequency microwave (C-band license-free operation)
- Automatic switching based on motion and ambient light level
- Without sacrificing power factor (PF) of luminaires (MC019S)
- Zero-crossing point operation – helps protect the sensor against in-rush current
- Automatic daylight learning, helps to avoid the ambient light may vary a lot when passes through cover of luminaires
- 2-hole input and 2-hole output push-in terminal, easy assembly
- 2 types of installation, base-mounting and surface mounting, suitable for different luminaires
- Detection area, time delay and daylight threshold can be precisely set via DIP switch.
- 50,000h life time, 5 years warranty.

## Product Information







| | |
|---|---|
| Operating voltage | MC018S: 220-240Vac, 50Hz<br>MC019S: 120-277Vac, 50Hz/60Hz |
| Rated load | MC018S: 400W(fluorescent), 1200W (incandescent)<br>MC019S: fluorescent: 800W @277Vac, 400W @120Vac<br>incandescent: 1200W |
| HF system | 5.8GHz+/-15MHz |
| Transmitting power | <0.5mW |
| Power consumption | ≤0.5W(standby), <1W(operation) |
| Detection zone | Max.(D x H): 16m x 10m |
| Detection sensitivity | 25% / 50% / 75% / 100% |
| Hold time | 10s / 30s / 90s / 3min / 20min / 30min |
| Daylight sensor | 5lux / 15lux / 30lux / 50lux / Disable |
| Mounting height | 10m Max. |
| Motion detection | 0.5~3m/s |
| Detection angle | 150°(wall installation)<br>360°(ceiling installation) |
| Operating temperature | MC018S:-20℃~60℃<br>MC019S:-35℃~70℃ |
| IP rating | IP20 |

## General Guidelines for Installation

1. The sensor should be installed by a qualified electrician. And ensure that the electricity supply is switched off before installing or servicing the product.

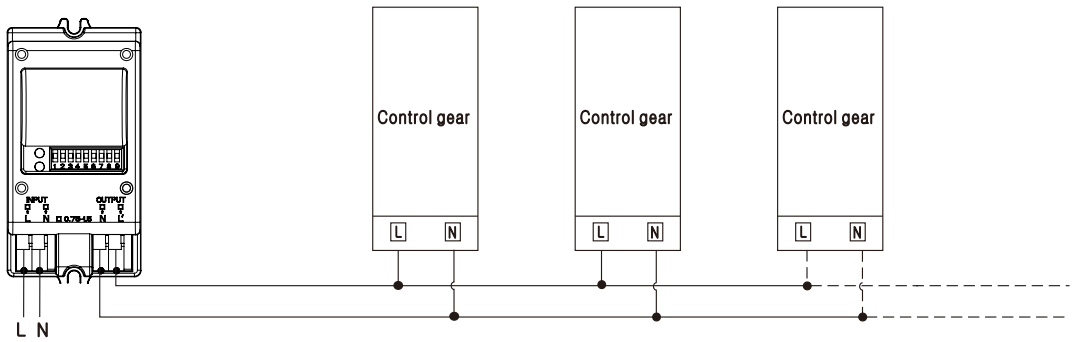
2. The sensor should not be modified in any way. Any modifications mode to this product will immediately invalidate any warranties issued.

3. The company does not accept responsibility for any consequences resulting from unauthorized modification of the product.

4. Microwaves cannot pass through metal or brick walls if thicker than 20cm. They will pass through thinner walls but there will be some attenuation.

5. Installation inside a glass or plastic housing will result in a reduction of detection sensitivity. Expect a reduction of approximately 20% for every 3mm of thickness.

## Wiring and Installation



Two types of installabion are available.

Pic 1 Base mounting

Pic 2 Surface mounting, compact antenna module can make sure small hole size 35x35mm.

## Setting

By selecting the combination on the DIP switch, sensor data can be precisely set for each specific application.

| ON | | 1 | 2 | | |
|---|---|---|---|---|---|
| | Ⅰ | ON | ON | 100% | 6-8m |
| | Ⅱ | – | ON | 75% | 4-6m |
| | Ⅲ | ON | – | 50% | 3-5m |
| | Ⅳ | – | – | 25% | 0.5-2m |

Detection area

Can be reduced by selecting the combination on the DIP switches to fit precisely each application

| ON | | 3 | 4 | 5 | |
|---|---|---|---|---|---|
| | Ⅰ | ON | ON | ON | 10s |
| | Ⅱ | – | ON | ON | 30s |
| | Ⅲ | ON | – | ON | 90s |
| | Ⅳ | – | – | ON | 3min |
| | Ⅴ | ON | ON | – | 20min |
| | Ⅵ | – | – | – | 30min |

Hold time

Refers to the time period the lamp remains at 100% illumination after no motion detected.

| ON | | 6 | 7 | 8 | 9 | |
|---|---|---|---|---|---|---|
| | Ⅰ | ON | ON | ON | ON | Disable |
| | Ⅱ | – | ON | ON | ON | 50lux |
| | Ⅲ | – | – | ON | ON | 30lux |
| | Ⅳ | – | – | – | ON | 15lux |
| | Ⅴ | – | – | – | – | 5lux |

Daylight sensor

The sensor can be set to only allow the lamp to illuminate below a defined ambient brightness threshold.

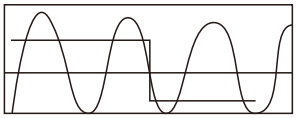
50lux, 30lux: Twilight operation, 15lux, 5lux: Darkness operation only.

Disable means the daylight sensor will switch on the lamp when motion is detected regardless of ambient light level.

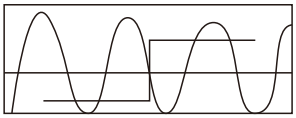
## Additional function

### 1. Zero-crossing point operation

The sensor has zero-crossing detection circuitry, helps protect the sensor against in-rush current when switching



Switch off



Switch on

### 2. Automatic daylight learning

Normally, the sensor supplies daylight threshold settings 5lux/15lux/30lux/50lux/Disable (Set by DIP switch). If the exact setting range above can not meet demand of users, or the daylight threshold need to be reset after installation, rapidly switching on / off 3 cycles within 3sec can easily reset the daylight threshold from 2lux to 500lux according to current ambient light level. Also, the daylight learning function can solve the problem that the ambient light may vary a lot when passes through cover of luminaires, users can set threshold value according to real need.

### How to use?

- Power off, then rapidly switching on / off 3 cycles within 3 sec (1cycle per sec), and then switch on.
- Daylight sensor measures ambient light level for 2 sec.
- Work light (green LED) flashes 5 times, then luminaires flash 3 times to show the success of learing
- work light (green LED) off, enter standby mode.

### Note

Memory function: The daylight sensor can remember the latest daylight threshold (set by automatic daylight learning function or DIP switch).

Daylight threshold set by DIP switch or automatic daylight learning function can be overwrote each other.

## FAQ

| Question | Cause | Remedy |
|---|---|---|
| The load will not illuminate. | Incorrect daylight sensor setting selected. | Adjust setting. |
| | Load has failed. | Replace load. |
| | Power is switched off. | Switch on |
| The load is permanently illuminated. | Continuous movement in the detection area. | Check detection area setting. |
| | The lamp (containing sensor) is installed in an area too close to reflective surfaces, i. e. metal, glass or concrete walls. | 1, Make sure installation area suitable with at least 30cm space between lamp and surrounding reflective surfaces.<br>2, Reduce sensitivity (detection area). |
| The load will not illuminate despite movement. | Speed of moving object is not in the range of 0. 5~3m/s or the detection radius is too small. | Check detection area setting. |

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