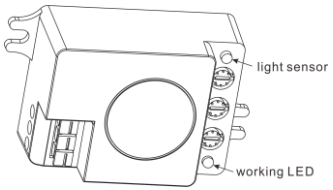
# Microwave Sensor

# EL-M09

## Manual

**Welcome to use EL-M09 Microwave Sensor!**




The product is a new saving-energy switch; it adopts microwave sensor mould with high-frequency electro-magnetic wave (5.8GHz), integrated circuit. It gathers automatism, convenience, safety, saving-energy and practicality functions. The wide detection field is consisting of detectors. It works by receiving human motion. When one enters the detection field, it can start the load at once and identify automatically day and night. Its installation is very convenient and its using is very wide. Detection is possible through doors, panes of glass or thin walls.

***SPECIFICATION:***

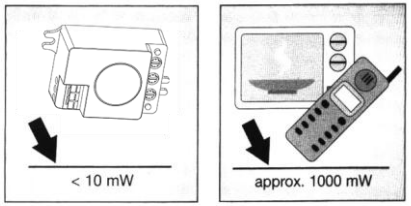
Power Sourcing: 220V/AC-240V/AC
Power Frequency: 50Hz
Ambient Light: 3-2000LUX (Adjustable)
Time-Delay: Min.:10sec±3sec
Max.:15min±2min
Rated Load: 1200W (incandescent lamp)
300W (energy-saving lamp)

Detection Range: 360° ceiling mounted
Detection Distance: 3-10m (radius) adjustable
HF System: 5.8GHz CW radar, ISM band
Transmission Power: <10mW
Installing Height: 1.5m~3.5m
Power Consumption: 0.9W
Detection Motion Speed: 0.6~1.5m/s

***FUNCTION:***

- Can identify day and night: It can work in the daytime and at night when it is adjusted on the “sun” position (max). It can work in the ambient light less than 3LUX when it is adjusted on the “3” position (min). As for the adjustment pattern, please refer to the testing pattern.
- SENS adjustable: It can be adjusted according to using location; low sensitivity with only 1m (radius) for detection distance; High sensitivity could up to 10m (radius), it fits for large room.
- Time-Delay is added continually: When it receives the second induction signals after the first induction, it will compute time once more on the basic of the first time-delay rest.
- Time–Delay is adjustable. It can be set according to the consumer’s desire. The minimum time is 10sec±3sec. The maximum is 15min±2min.

**NOTE: the high-frequency output of this sensor is <10Mw- that is just one 100$^{th}$ of the transmission power of a mobile phone or the output of a microwave oven.**

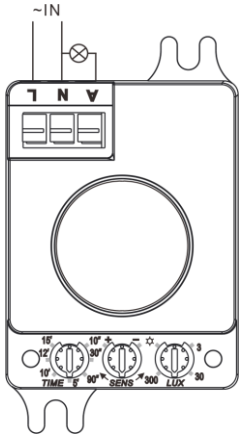


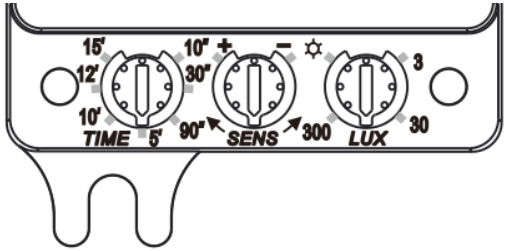
***INSTALLATIION:*** (see the diagram)

- Switch off the power.
- Fix the bottom on the selected position with the inflated screw through the screw holes at the side of the sensor.
- Connecting the power and the load to sensor as per the connection-wire sketch diagram.
- Switch on the power and test it.

## Connection illumination

Connect N, L with power;
Connect N, A with load.




***TEST:***

- Turn the LUX knob clockwise on the maximum. Turn the TIME knob anti-clockwise on the minimum, Turn the SENS knob clockwise on the maximum.
- When you switch on the power, the light will be on at once, and 5-30 seconds later will be off automatically. Then if the light receives induction signal, it can work normally.
- After 5-10sec of the first detection, the light could work again. If there is no induction signal, the load should be stopped working within 5-15sec.

**Note: when testing in daylight, please turn LUX knob to ☼ (SUN) position, otherwise the sensor lamp could not work!**

***NOTES：***

- Electrician or experienced human can install it.
- The unrest objects can't be regarded as the installation basis-face.
- In front of the detection window there shouldn't be hinder or unrest objects affecting detection.
- Avoid installing it near air temperature alteration zones for example: air condition, central heating, etc.
- For your safety. Please don't open the case if you find hitch after installation.
- In order to avoid the unexpected damage of product, please add a safe device of 6A when installing Microwave sensor, for example, fuse, safe tube etc.

***SOME PROBLEM AND SOLVED WAY***

- The load don't work:
  a. Check the power and the load.
  b. Whether the indicator light is turned on after sensing? If yes, please check load.
  c. If the indicator light does not turn on after sensing, please check if the working light corresponds to the ambient light.
  d. Please check if the working voltage corresponds to the power source.
- The sensitivity is poor:
  a. Please check if in front of the detection window there is hinder that has effect on receiving the signals.
  b. Please check the ambient temperature.
  c. Please check if the signals source is in the detection fields.
  d. Please check the installation height.
- The sensor can't shut automatically the load:
  a. If there are continual signals in the detection fields.
  b. If the time delay is set to the longest.
  c. If the power corresponds to the instruction.
  d. If the air temperature changes near the sensor, air condition or central heating etc.