ENSA™

Energy Saving Devices

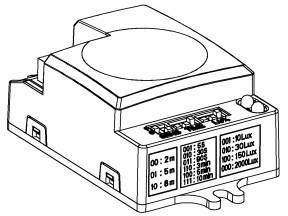
ENSA-MS1

MICROWAVE MOTION ACTIVATED SWITCH

INSTRUCTION MANUAL

www.ensalife.com

Thanks for choosing the ENSA-MS1 Microwave Sensor!



This product is an automated energy saving switch; it is based around a 5.8Ghz microwave motion sensor, light sensor and control electronics. The sensor will switch on the load when it detects movement inside the detection field and stay on until a preset time has elapsed. The sensor will only switch the load on when the measured LUX level is below a set threshold. As this sensor is microwave based it has a wide detection range and unlike PIR sensors it may detect occupants through doors, glass windows or thin walls.

For installation only by a qualified Electrician – NOT IP RATED FOR OUTDOOR USE

SPECIFICATIONS:

AC Input Voltage: 220-240V/AC

AC Input Frequency: 50Hz

Ambient Light: 5, 30, 150, 2000 lux (selectable)

Time Delay: 5s, 30s, 90s, 3min, 5min, 10min (selectable)

Rated Load: 500W

200W

Detection Range: 360°/180°

Detection Distance: 2, 5, 8m (selectable)

HF System: 5.8GHz CW radar, ISM band

Transmission Power: <0.2mW

Installing Height: 1.5-3.5m

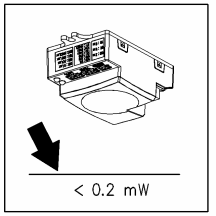
Power Consumption: approx. 0.9W

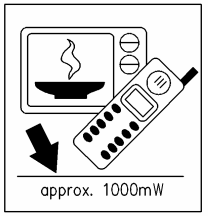
Detection Motion Speed: 0.6-1.5m/s

FEATURES:

- Built in light sensor which can be set to detect between 5 lux (“0 0 1” position) and 2000 lux (“0 0 0” position)
- Adjustable microwave sensitivity can be set to detect movement in a 2m to 8m radius.
- Time delay before load switch off is adjustable between five seconds and ten minutes.
- Time delay before switch off is automatically reset when the sensor detects movement, even if the load is still on. This means that intermittent movement will keep the load on.
- LUX sensing is disabled while the load is on – this stops switched lights from triggering the lux sensor and turning themselves off.

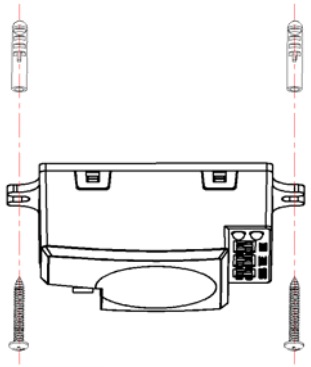
Radio Frequency Emission: The RF output of this microwave sensor is less than 0.2mW - this equates to 1/5000th of the transmission power of a mobile phone or leakage output of a microwave oven.



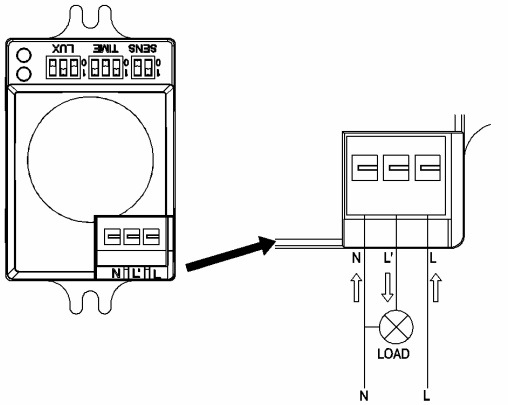


INSTALLATION:

- Ensure all AC power is switched off.
- Fix the base of the sensor in the desired position with screws through the holes at the side of the sensor.
- Connect the power and the load to sensor as per the connection diagram below.
- Double check connections before switching on AC power and testing the device.

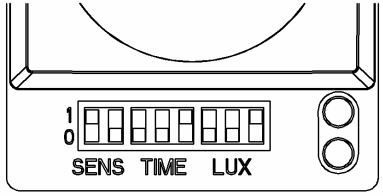


CONNECTION DIAGRAM:



TESTING THE INSTALLATION:

- **Setting the "SENS" DIP switches:** Set the first switch to the "1" position and the second switch to the "0" position. (8 meters sensitivity)
- **Setting the "TIME" DIP switches:** Set switch one and two to the "0" position and the third switch to the "1" position. (5 second timeout)
- **Setting the "LUX" DIP switches**: Set all switches to the "0" position. (2000lux light sensitivity)



When power is connected, the load will turn on before the sensor times out and switches off. Once off, the load will switch back on when the sensor detects movement. If the sensor detects movement while the load is on, the on timer will be reset and the load stay on.

Please note when testing in daylight, ensure that the "LUX" DIP switches are set to 2000lux (0 0 0), otherwise the sensor will not turn on the load.

Once the installation has been tested and is working, you may customise the SENS, TIME and LUX switches to suit your application.

INSTALLATION NOTES：

- Only for installation by a qualified Electrician.
- Only install the product on a static object that does not sway or vibrate.
- Objects placed in front of the sensor may affect the sensing range.
- Avoid installation near metal or glass surfaces as this will affect detection range.
- For your safety, never open the plastic case.
- Please install a 6A switch or circuit breaker in line with the switched load to prevent sensor damage due to overloading.

TROUBLESHOOTING:

- The load does not turn on:
  - a. Check the input power to the sensor. Ensure that the supplied voltage is between 220-240VAC.
  - b. Check to see if the indicator light is turned on after triggering – if it is, check the wiring to the load.
  - c. If the indicator light does not turn on after trigger, try increasing the value of the "LUX" dip switches.
- The motion detection sensitivity is poor:
  - a. Ensure that there are no objects between the sensor and the location to be sensed, as this could reduce the range.
  - b. Ensure that there are no other devices using the 5.8Ghz band in close proximity to the detector (e.g. Wireless LAN, CCTV transmission equipment, etc)
  - c. Ensure that the installation height is 1.5-3.5M.
- The sensor does not turn off the load:
  - a. Check the "TIME" dip switches to ensure that the correct time has been selected.
  - b. Ensure that there are no other devices using the 5.8Ghz band in close proximity to the detector (e.g. Wireless LAN, CCTV transmission equipment, etc).
  - c. Ensure that the power drawn by the load is less than 500W for a resistive load and 200W for an inductive load.